

# WORK-LIFE BALANCE, IDENTITY SALIENCE AND BREAK TAKING BEHAVIORS IN INDIAN EXPATRIATES

By

Pooja Bangalore Vijayakumar

Christopher J. L. Cunningham  
UC Foundation Associate Professor  
(Chair)

Brian J. O’Leary  
Department Chair - Psychology  
(Committee Member)

Bart L. Weathington  
UC Foundation Professor  
(Committee Member)

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Pooja Bangalore Vijayakumar

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## ABSTRACT

This study focuses on the challenges faced by Indian expatriates working in the IT industry in the USA. It specifically examines participants' work-nonwork role relationship quality, identity salience, and break taking behaviors. The sample for this study consisted of 415 Indian expatriates working in the IT industry. A computational tool called PROCESS was used to test the path analysis-based moderation and mediation analyses and their integrated form of conditional process models to determine whether work-nonwork role relationship quality mediates the relationship between work-related stressor and wellbeing. The relationships among work-related stressors, work-nonwork role relationship quality, and wellbeing were examined, while also considering the conditioning effects of identity salience and break taking behavior. Results showed that work-nonwork role relationship quality completely conditioned the relationship between work-related stressors and wellbeing. Identity salience and break taking behaviors also reduced the strength of this relationship. The present study serves as a starting point to investigate further the complex relationships involving stressors, work/nonwork roles, work/nonwork identity salience, and break taking behaviors among Indian expatriates. The results of this study may also help American companies understand complex work/nonwork role relationship challenges faced by this specialized workforce.

## DEDICATION

To my best friend and husband Ashok Madhvesh for always being very encouraging, positive and supportive of all of my endeavors. I would also like to dedicate it to my pet daughter Sasha for being my constant companion and stress buster.

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## LIST OF ABBREVIATIONS

WIPL, Work interference in personal life

PLIW, Personal life interfering in work life

WEPL, Work enhancing personal life

PLEW, Personal life enhancing work life

minibrk, minibreak frequency

brktime, minibreak time

## **CHAPTER I**

### **INTRODUCTION**

For many professionals, the boundary that separates work from nonwork is increasingly blurry and permeable. Recent changes in society, organizations, and personal work and nonwork roles have contributed to an increasing recognition of work-life balance challenges for working individuals. Globalization has led to increased communication demands for clients and colleagues who operate in distant locations. This, in addition to available mobile technologies, has created a situation in which many information technology (IT) professionals essentially have a never-ending, 24-hour, seven day per week job. For employees who work in organizations that require such long hours, the challenge of maintaining some semblance of balance between work and nonwork role demands is very real. This is particularly the case in dual-earner and single parent households.

The present study is designed to focus on these challenges faced by IT professionals. To keep this focus on challenges within a particular cultural context, the present study targets expatriate IT professionals from India are working in the United States of America (USA). It is important to study the work/nonwork behavior of Indian expatriates in the IT domain because these individual occupy key positions in various organizations and are increasingly relied upon as key role holders and collaborators within the American IT industry (e.g., Satya Nadella

recently became the chief executive officer of Microsoft; Sundar Pichai is the senior vice president at Google who oversees Android, Chrome, and Goggle Apps).

### **Expatriates and the Information Technology (IT) Industry**

The IT Association of America (ITAA, 1997) defines IT as the "the study, design, development, application, implementation, support or management of computer-based information systems, particularly software applications and computer hardware" (p. 8). It can be divided into three components: process, people and technology. Process is the procedure used in accomplishing a task. People are the individuals and teams working on a task. People, are the individuals working in the IT industry, Technology encompasses the tools available for the successful completion of work (Proctor, 2011). Computer hardware, software, electronics, semiconductors, internet, telecom equipment, e-commerce, and computer services are industries linked with information technology (Reddy, 2013). Network administration, software development, quality assurance, management of organization's technology life cycle, maintenance of hardware and software, upgrade and installation of software are some of the responsibilities of employees working in the IT domain. Software engineers working in the IT related field are well-paid and highly-educated (Upadhya, 2006).

The period 1965-1970 marked the beginning of the IT software industry in the USA. Until this time, software companies were small and dependent on government contracts. The growth of an independent software domain was supported by IBM in 1969 to unbundle the sale of hardware and software. In the early 1980s, the USA saw an emergence of personal computers and publication of packaged software. The personal computers were later linked to extensive networks like electronic mail (E-mail) and file transfer. In the 1990s, the USA software industry

strengthened its position in the international market by the developments in networking. The low cost of data communication and voice telephony, coupled with broad bandwidth and easy access to the Internet, enabled users to run applications in offshore centers (Philipson, 2004). It is during this time that outsourcing played an important role in contracting out all or part of the IT function.

The term “offshoring” describes a form of work outsourcing in which, for the present context, software business functions and software development are shifted to countries outside the USA. Most of these contracts are outsourced to India, where the software industry has seen enormous growth. Software engineers in India and abroad participate in multinational projects which create new work environment and work culture issues for employees working in this industry (cf., Upadhyaya, 2006). According to the National Association of Software and Services Companies (NASSCOM, 2013), the revenue generated by the export of IT software and services in India was \$76 billion in 2013 and is expected to grow to \$84-87 billion in 2014. For some perspective, the revenue generated by the overall software and IT services industry in the USA was \$606 billion in 2011 (SelectUSA, 2013).

According to Upadhyaya (2006), factors like a large pool of English-speaking engineering manpower, cheap labor costs, establishment of satellite links for data transmission overseas and the success of Indian software companies like Infosys and Wipro contributed immensely to the creation of a global IT services market linking Indian IT professionals with American IT companies. The ongoing shortage of software skills among Americans has resulted in the hiring of large numbers of foreign-born employees who possess these skills. Indian expatriates constitute one of the leading sub-communities within the broader American population. They have founded more number of engineering and technology companies in the Silicon Valley

between 1995-2005 when compared to expatriates from UK, China, Taiwan and Japan (Wadhwa, Saxenian, Rissing, & Gereffi, 2007). The Migration Policy Institute (MPI) report (2013) noted that 1.9 million Indian immigrants lived in the United States in 2011, forming the third largest immigrant group behind immigrants from Mexico and China. Indian immigrants represent roughly 5% (1.86 million) of the total immigrant population (40.4 million) in the USA and companies in the IT industry hire most of the Indian born workers (Whatley & Batalova, 2013). In 2011, Indian-born men working in IT represented 29% percent of all 717,000 Indian male workers and Indian-born women represented 15.5% of all 415,000 Indian female workers in the USA IT industry (Whatley et al., 2013).

Apart from contributing significant expertise and numbers of employees to IT-related companies in the USA, Indian expatriates are also faced with challenges and potential conflicts associated with their complicated work and nonwork role dynamics. In their work life, expatriates are faced with new roles, challenges, opportunities, greater responsibilities, and pressure to perform well (Harvey, 1985; Upadhyia & Vasavi, 2006). These individuals are also likely to face challenges related to language and cultural norm differences, which can negatively affect the quality of relationships with coworkers and supervisors (e.g., Lirio, 2010). They face stressors like cultural shock, language barriers and separation from family which can affect their performance and productivity (Koteswari & Bhattacharya, 2007). Also, a study done on Indian expatriates working in the USA IT industry showed that employees had lower pay packages and lack of opportunities for promotions when compared to their USA coworkers having same or similar experiences (Gai, Sumner, Bragger, & Nooner, 2011).

Takeuchi, Lepak, Marinova, and Yun (2007) pointed out that the cultural distance between one's home country and host country determines the overall cross-cultural adjustment of



expatriates in assignments. Perhaps the most widely used model for conceptualizing and measuring such cultural differences is from Hofstede (1980). His model identifies four dimensions of cultural difference: power distance, uncertainty avoidance, individualism and masculinity. Power distance explains the inequality and the interpersonal power that exists between superiors and subordinates. In case of high power cultures, superiors have more power when compared to their subordinates and have to follow their instructions. Uncertainty avoidance is the feeling of uncertainty or risk felt by people in a society. Individualism refers to individual achievements and competition in an organization and collectivism refers to group achievement and cooperation. Masculinity is preference of societies or cultures to give more importance to achievement, material success, and ambition. Research has found both similarities and differences between Indian and American work cultures. Based on the model, both cultures have been described as low on uncertainty avoidance and high on masculinity. Despite these similarities, the Indian work culture tends to be more collectivistic, while American work cultures are more individualistic. Similarly, Indian work culture is characterized by high power distance, while the opposite is true for American work culture distance.

The cultural differences experienced by expatriates can also function as a source of conflict in expatriates' nonwork role domains. Nonwork conflicts between American parents and adolescents mostly occurred over doing chores, getting along with siblings, regulating activities, homework, and appearances (Smetana, 1989). In contrast, nonwork conflicts within ethnic minority communities are often due to different rates of acculturation, defined as "the extent to which individuals have maintained their culture of origin or adapted to the larger society" (Phinney, 1996, p. 921), between foreign born parents and their American-raised children (Min, 1995; Rumbaut, 1994; Sodowsky, Kwan, & Pannu, 1995; Szapocznik & Kurtines, 1993; Ying,

1998). Children of foreign-born parents tend to acculturate faster to the dominant culture when compared to their parents which can lead to conflict in families (Gil, Vega, & Dimas, 1984; Szapoczni, Santisteban, Kurtines, Perrez-Vidal, & Hervis, 1984; Vega, Khoury, Zimmerman, Gil, & Warheit, 1995).

Research has shown that immigrant parents have had difficulty in raising their children in "two cultures" (Nah, 1993). Foreign born parents also have had to adapt to the host country's lifestyle to be successful in school and society (Nguyen & William, 1989; Uba, 1994; Ying, 1998). These issues have been particularly noted within Pakistani (Cropley, 1983), Latino (Baptiste, 1993), Chinese (Sung, 1985) and Asian Indian (Dasgupta, 1998) populations. Research has also shown that, when compared to other ethnic groups, expatriate families from more traditional Asian backgrounds may be more prone to family dysfunction than expatriate families from other cultures (Chambon, 1989; Dinh, Sarason, Sarason, & Sarason, 1994; Drachman, Kwon-Ahn, & Paulino, 1996; Fuligni, 1998; Lee, 1997; Nah, 1993; Rumbaut, 1994; Uba, 1994).

### **Work/Nonwork Role Relationship Quality**

Most people manage a complex web of interrelated work and nonwork roles. While it may be possible for a person to achieve some semblance of balance while juggling the demands of various life roles, often one or more of a person's life roles dominates and can require resources to a point that creates conflict in other roles. Early research in work-life balance focused on six basic models, or linking mechanisms, that help to explain the interactions between work and nonwork role domains in a person's life: spillover (Burke & Greenglass, 1987; Evans & Bartolome, 1986; Lambert, 1990; Near, Rice & Hunt, 1980; Staines, 1980; Zedeck, 1992), compensation (Burke & Greenglass, 1987; Champoux, 1978; Lambert, 1990;

Zedeck, 1992), segmentation (Burke & Greenglass, 1987; Lambert, 1990; Zedeck, 1992), resource drain (Eckenrode & Gore, 1990; Piotrkowski, 1979; Small & Riley, 1990; Staines, 1980; Tenbrunsel, Brett, Maoz, Stroh, & Reilly, 1995), congruence (Morf, 1989; Zedeck, 1992) and work/nonwork conflict (Burke & Greenglass, 1987; Cooke & Rousseau, 1984; Greenhaus & Beutell, 1985). The relationships between work and nonwork constructs are specifically explained using spillover, compensation, segmentation and congruence models, while the resource drain and work/nonwork conflict models help to explain outcomes related to work and nonwork role interactions.

In the *spillover* model, experiences in work roles affect (positively or negatively) one's experiences in nonwork roles and vice versa. Work and nonwork experiences are negatively correlated in the *compensation* model, such that unhappiness in the work domain may lead to spending more time and energy in one's nonwork roles or vice versa. In the *segmentation* model, work and nonwork life roles do not influence each other, as these types of roles are assumed to be fully distinct. Work and nonwork factors may positively or negatively correlate with each other in the *congruence* model. Finally, in the *resource drain* model, work and nonwork variables also have a negative relationship. Unhappiness in work life leads to spending resources (e.g., energy, time, attention) into nonwork life and vice versa.

*Work-life balance* can be broadly defined as existing when we experience a lack of conflict between the demands of our work and nonwork roles. This can also be thought of as, "meaningful daily achievement and enjoyment in each of the four quadrants of life-work, family, friends and self" (Shree & Jyothi, 2012, p. 36). An important feature of work-life role interrelationships is that they operate bidirectionally; work can interfere with nonwork life and nonwork life can interfere with work. There are other aspects to work-life balance that also

deserve mention. In particular, is the notion of work/nonwork facilitation, which is also called the work/nonwork enhancement or positive work/nonwork spillover (Frone, 2003). This related phenomenon occurs when one's experiences and skills developed in one role, help in the successful meeting of demands in the other role.

People experience work/nonwork role conflict when they are unable to meet the demands posed by work and nonwork roles. Such conflict is defined as "a form of inter-role conflict in which the role pressures from the work and nonwork domains are mutually incompatible in some respect. That is, participation in the work (nonwork) role is made more difficult by virtue of participation in the nonwork (work) role" (Greenhaus & Beutell, 1985, p. 77). Such conflict can be further distinguished as work-to-nonwork interference (WFI; work interfering in family/nonwork life) and nonwork-to-work interference (FWI; family/nonwork interfering in work life). Research has shown that WFI is more prevalent than FWI due to the less permeable nature of the boundary from nonwork to work, than from work to nonwork role domains (e.g., Aryee, Luk, Leung, & Lo, 1999; Netemeyer, Boles, & McMurrian, 1996).

It is also worth noting that not all forms of role interference are the same. According to Carlson and Frone (2003), internal and external interference between work and home domain causes work/nonwork conflict. Internal inference occurs when an individual is psychologically preoccupied with work when at home (with family) and psychologically preoccupied with family at work. External interference occurs when externally generated work demands (e.g., work deadlines) prevents spending time with family or fulfilling family responsibilities and when family demands (e.g., childcare) prevents spending time at work and fulfilling job responsibilities. This can lead to role conflict, where demands of one role interferes with the demands of other roles.

## **The Present Study**

Expatriates who face challenges and conflicts such as those described in the preceding paragraphs are more likely to fail to complete their expatriate assignments. These failures often result from an inability to adjust to the new environment, culture shock, nonwork issues, spouse problems, personal dissatisfaction and lack of organizational commitment (Arthur & Bennett, 1995; Vogel, Millard, & Vuuren, 2008). Failed expatriate assignments can also damage relations with key business connections in a host country and demoralize employees. According to the Global Relocation Trend Survey Report (2011), China, India and the USA were places rated high on expatriate assignment failure (p. 15).

The quality of our work/nonwork role interrelationships is an important element in our day-to-day quality of life. From an occupational health perspective, perceptions of work/nonwork conflict and balance are likely to be associated with the presence or absence of work and nonwork forms of stress, and also with other physical and psychological indicators of well-being. Research has linked stress to work-life conflict, showing effects of both work- and nonwork-role related stress on both directions of work and nonwork role relationships (Anderson, Coffey, & Byerly, 2002; Frone, Russell, & Cooper, 1992a; Grandey & Cropanzano, 1999). Research has also shown that employees who work longer hours or have greater work demands, as well as higher job involvement and autonomy report stronger experiences of work/nonwork conflict (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005).

It has also been shown that work-related stress and work/nonwork role relationships may be associated with psychological well-being and distress (e.g., Major, Klein, & Ehrhart, 2002; Stephens, Townsend, Martire, & Druley, 2001). According to Parasuraman and Simmers (2001), work demands predict both work/nonwork conflict and psychological well-being when compared

to nonwork demands. For example, Sonnentag and Niessen (2008) found that high workload (time pressure and working long hours) are negatively related to a person's positive affect or vigor at the end of work day. Other studies have shown that work/nonwork conflict is linked to depression (Allen, Herst, Bruck, & Sutton, 2000; MacEwen & Barling, 1994; Noor, 2002) and burnout (e.g., Bacharach, Bamberger, & Conley, 1991). Employees having greater nonwork-to-work conflict self-reported a decrease in health, increased occurrence of hypertension and depression (Frone, Russell & Cooper, 1997). According to Thomas and Ganster (1995), increased work/nonwork conflict was related to higher levels of cholesterol.

With these relationships in mind, it can be expected that stressors (workload) between work and nonwork roles may contribute to a person's feeling of work/nonwork role conflict or balance. Carried further, these relationships are likely to impact a person's overall sense of well-being. This basic mediational model is summarized in Figure 1. It is hypothesized that perceptions of work/nonwork role conflict and balance mediate the relationship between perceived work stressors and perceived wellbeing (Hypothesis 1).

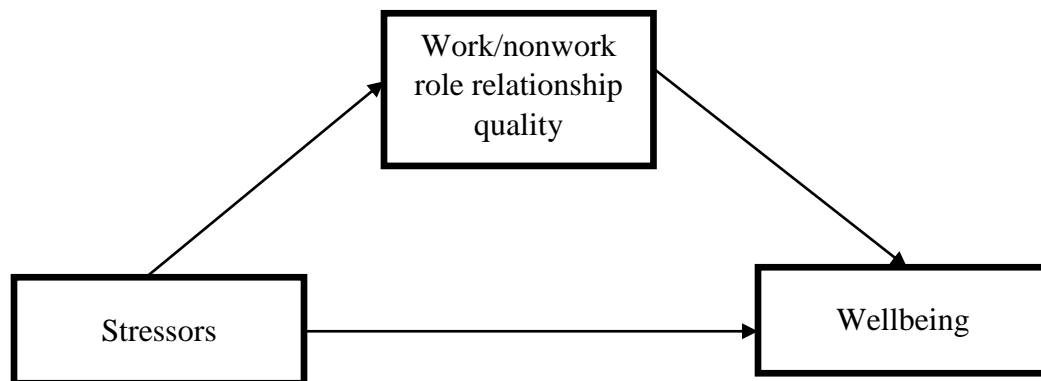


Figure 1. Perceptions of work/nonwork role relationship quality mediate the relationship between perceived work-related stressors and perceived wellbeing

### *Individual Differences Affecting Work/Nonwork Role Relationship Quality*

Because the effects of role-related stressors are typically conditioned, at least in part, by subjective perceptions of stressors and the degree to which they are perceived as threatening in some way to individual resources and general well-being (e.g., Conservation of Resources Theory, Hobfoll, 1989: challenge versus hindrance forms of stress, LePine, LePine, & Jackson, 2004), it is also important to consider individual differences in traits and behavioral tendencies that may influence our perceptual processes. Two such differences are considered in the present study: a person's underlying work/nonwork identity salience, and typical break-taking behaviors while at work.

*Identity salience* is associated with the aspects of life a person deems most important. As an individual difference variable,

Identity salience represents one of the ways, and a theoretically most important way, that the identities making up the self can be organized. Identities, that is, are conceived as being organized into a salience hierarchy. This hierarchical organization of identities is defined by the probabilities of each of the various identities within it being brought into play in a given situation. Alternatively, it is defined by the probabilities each of the identities have of being invoked across a variety of situations. The location of an identity in this hierarchy is, by definition, its salience (Stryker & Serpe, 1982, p. 206).

Role enactment (Lobel, 1991; Lobel & St. Clair, 1992) and role outcomes (Frone, Russell, & Cooper, 1995) are affected by the extent to which an individual identifies with a given role. For example, in a sample of male and female employees of a public university, Rothbard and Edwards (2003) found that greater identification with the family/nonwork role was

linked to greater amounts of time spent with family, while greater identification with the work role was linked to greater amounts of time spent at work. Specifically, greater identification with work role resulted in increased job opportunities (being a manager) and the number of jobs held by an employee. Greater identification with the family role was associated with a larger number of children for employees in a partnered relationship.

Similarly, Thompson and Bunderson (2001) found that individuals who treated work and nonwork roles differently found one role to be more salient and central when compared to the other. This can be further explained if the roles are identity affirming or identity discrepant. Identity affirmation takes place when an individual does not observe conflict between roles. Conversely, individuals experience identity discrepancy when they observe conflict between roles. Identity salience is not static, as priorities between work and nonwork roles shift based on the demands of a person's multiple roles.

*Break-taking behaviors in the work environment* constitute a second relevant individual difference. Existing research indicates that employees may take short breaks if they feel fatigued when work-related time pressure is low; when time pressure is high, employees may skip breaks which eventually leads to reduced energy for the rest of the workday (Sonnetag et al., 2008). For the present study, therefore, skipping breaks is considered as an outcome of work conflict.

High workload and job involvement also appear to be negatively related to psychological detachment from work (Sonnetag & Krueger, 2006). Taking breaks or short respites from work can help an individual unwind and combat work stress (Fritz, Ellis, Demsky, Lin & Guros, 2013). The activities undertaken *during* a break can also help facilitate recovery. For example, cooking and practicing meditation may help some people recover, while others may receive more benefit from rock climbing. Psychological detachment from work-related activities can help in



the recovery of lost energy (Sonnentag & Krueger, 2007). However, breaks are not always beneficial for the individual or the organization. While they can be rejuvenating or recreational for employees who are bored and fatigued, they can also cause interruption in workflow and cause delays which can increase stress.

Breaks involving nonwork activities, like chatting with others, engaging in sports or exercise, daydreaming, reading, or watching television, are considered important for emotional wellbeing and creativity in employees (Csikszentmihalyi, 1975, p.141). According to Elsbach and Hargadon (2006), when introduced in a regular work schedule, breaks involving “mindless” work that are low in cognitive effort and performance pressure can lead to improved job performance and enhance creativity. It has also been shown that taking periodic breaks to focus on family, hobby, and interests can increase productivity, creativity and satisfaction (Buck, Lee, MacDermid, & Smith, 2001).

Breaks can also be disruptive and cause stress. According to Jett and George (2003), breaks cause temporary disengagement from work and loss of momentum. Breaks may also result from a desire to procrastinate. Delays and failure to complete work also causes employee stress. Frequent and extended breaks cause employees to lose interest in work, forget vital information regarding the task, and require additional time to relearn the task they had left behind.

Research indicates that the today’s typical office workplace is devoid of opportunities for physical activity; employees spend more than half of their work day in their seat (Marshall & Gyi, 2010). Within the IT industry in particular, engineers consistently work long hours on computers designing, developing and maintaining the software, resulting in a sedentary lifestyle. Research has shown that prolonged sitting time is linked to increased body fat, cancer,

cardiovascular disease, type 2 diabetes, and early mortality (van Uffelen et al., 2010). Frequent rest breaks can help reduce discomfort (Zwahlen, Hartmann & Rangarajulu, 1984), static loads on musculoskeletal system (Sundelin & Hagberg, 1989) and repetitive strain injuries (Fisher et al., 1993). Short breaks from continuous computer work help increase employee productivity and wellbeing (Sundelin et al. 1986, Sundelin & Hagberg, 1989; Sauter & Swanson, 1992; Swanson & Sauter, 1993). In this study, the focus has been the frequency of minibreak (minibrk) and the amount of time Indian expatriates spend in minibreak (brktime).

The preceding evidence and supporting theoretical connections suggest that identity salience and break-taking behaviors are likely to play a role in the mediational model associated with Hypothesis 1. More specifically, these two individual differences may moderate the relationship between stressors and the quality of work/nonwork role relationships, as well as the subsequent link to wellbeing. This moderated mediation model is summarized in Figure 2.

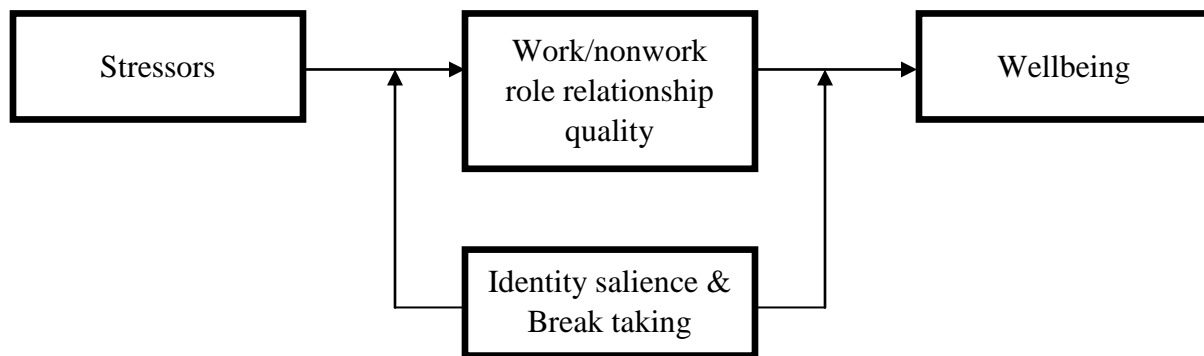


Figure 2. Identity Salience and Break taking behavior moderate the relationship between stressors, Work-nonwork role relationship quality, and wellbeing

It is also hypothesized that individuals with a predominant work salience will reduce the strength of relationships between work-related stress, work/nonwork role relationship quality,

and wellbeing. The opposite is expected for workers who are predominantly nonwork salient (Hypothesis 2). Existing research on the effects of break-taking at work supports competing hypotheses regarding the effects of break-taking on the other relationships that are the target of the present study. Based on relevant stress theory and past findings, however, it is anticipated that relatively brief, frequent breaks while at work will reduce the strength of relationships between work-related stress, work/nonwork role relationship quality, and wellbeing. Infrequent and/or longer breaks are expected to strengthen the links between work-related stressors, work/nonwork role relationship quality, and wellbeing (Hypothesis 3).

## **CHAPTER II**

### **METHOD**

#### **Participants and Procedure**

The participants for this study were Indian Expatriates working in the IT industry in the USA. The members of this population were born in India and expatriated to the USA as adults (18 years old +). The final overall sample consisted of 415 individuals who responded to the majority of survey questions. Of these individuals, 325 (78.3%) were male and 90 (21.7%) were female participants. Information such as sex, age, marital status, number of dependents (children and elders), number of hours worked per week, IT job title, and number of years spent in the USA, were also collected from the participants.

Approximately 1800 Indian expatriates were contacted to participate in this research. Given the targeted nature of the study, purposive sampling took place at the NATA (North American Telugu Association, Indo-American organization of Telugus from North America which was founded in 1977 in New York) which was held in Atlanta, where names, occupation, job title, email address, and phone numbers was collected for potential participants who met the inclusion criteria. Additional participants were solicited via social media networking (LinkedIn and Facebook) and through relevant professional association membership lists. Also, participants from Kannada Koota (North American Kannada Association, Indo-American organization of Kannadigas) working in the USA IT industry were recruited to participate in the survey.

Participants were asked to respond to an internet-based survey composed of the demographic and targeted measures detailed in this section. This survey was administered online using SurveyMonkey.

## **Measures**

In addition to the demographic information summarized above, participants responded to measures of the following constructs that are at the heart of this study.

*Demographics.* Information such as sex, age, marital status, number of dependents (children and elders), number of hours worked per week, IT job title, and number of years spent in the USA, were collected from the participants.

*Stressors.* Stress was measured using the Quantitative Workload Inventory (QWI) five-item scale (Spector & Jex, 1998). This scale measured the quantity of work in a particular job. Participants rated on a five-point scale, ranging from 1 ("Less than one per month") to 5 ("Several times per day"). An internal consistency of .82 was reported across 15 studies (Spector et al., 1998). Stress was also measured using the Interpersonal Conflict at Work Scale, ICAWS, a four-item scale with internal consistency of .74 (Spector et al., 1998).

*Work-nonwork role relationship quality (Wnw Quality).* To measure work/nonwork role interference and enhancement, a five point 17-item scale by Fisher, Bulger, and Smith (2009) was used. The five point scale ranges from 1 (not at all), 2 (rarely), 3 (sometimes), 4 (often), to 5 (almost all of the time). The Cronbach's alphas was .91 for work interference with personal life,

.82 for personal life interference with work, .70 for work enhancement of personal life, and .81 for personal life enhancement of work. The overall work-nonwork relationship quality was measured by subtracting work-nonwork role interference from work-nonwork role enhancement, such that higher scores reflected more enhancement than interference.

*General wellbeing.* The six-item Psychological General Wellbeing Short Form (PGWB-S) were used to measure the psychological wellbeing of the participants (Grossi et al., 2006). This shorter version of the scale was used from the original Psychological General Well Being Index (Dupuy, 1984). This scale measures the emotional states of anxiety, depression, positive wellbeing, perceived self-control, general health, and vitality of the participants. The internal consistency of the scale ranges from .80 to .92 (Grossi et al.). A five item life satisfaction scale by Pavot, Diener, Colvin, and Sandvik (1991) was also used in the wellbeing scale

*Work/nonwork Identity Salience.* Participant's work and nonwork identity salience were measured using a 10-item scale developed by Cunningham (2005). A Likert scale is used to gather participant responses, ranging from 1 (strongly disagree) to 7 (strongly agree). The internal consistency reported were .86 for work salience and .82 for nonwork salience.

*Break-taking behaviors.* Break-taking behaviors were measured in terms of if individuals took minibreak (minibrk) and the typical amount of time spent in taking minibreaks (breaktime).

## **CHAPTER III**

### **RESULTS**

Descriptive statistics for all core study variables are summarized in Table 1. While self-explanatory for the most part, it is important to note that the bivariate correlations in this table help to illustrate the distinctiveness of the four subdimensions of work-nonwork role relationship quality. It is also worth noting that low general level of intercorrelation between variables suggests that the effects of common method bias are also limited in this dataset.

Table 1. Descriptive Statistics and Correlations among Study Variables

	<i>N</i>	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. WIPL	391	12.78	4.46															
2. PLIW	391	11.13	4.53	.36 **														
3. WEPL	391	9.20	2.81	-.31 **	-.08													
4. PLEW	389	11.24	2.61	-.17 **	-.30 **	.42 **												
5. WNW role quality	391	-1.73	4.92	-.75 **	-.73 **	.57 **	.60 **											
6. Workload	376	5.72	1.32	-.53 **	.24 **	-.29 **	-.18 **	-.48										
7. Work salience	412	4.30	1.21	.17 **	.05	.20 **	.00	-.05	.10									
8. Nonwork salience	412	4.70	1.06	-.18 **	-.10 *	.00	.13 *	.16 **	-.12 *	-.28 **								
9. Break time (mins)	284	11.95	10.03	-.02	.03	-.03	-.06	-.03	.16 **	-.03	-.03							
10. Minibreak taker (N/Y)	389	n/a	n/a	.16 **	-.12 *	-.09	.06	-.03	.12 *	.05	-.09	.	c					
11. Age	416	34.00	7.25	.07	-.08	.07	.06	.04	.14 **	.08	-.06	-.08	.05					
12. Sex	415	n/a	n/a	-.03	.03	.06	.06	.03	-.06	-.04	.01	-.07	.11 *	-.18 **				
13. Marital status	412	n/a	n/a	.00	-.04	.05	.14 **	.07	.10	-.06	-.02	-.05	.09	.35 **	.01			
14. # of dependents	335	n/a	n/a	.11 *	.05	.11 *	.00	-.04	.17 **	.12 *	-.06	.01	.01	.59 **	-.11 *	.36 **		
15. Workhours	404	45.25	8.32	.39 **	-.02	-.13 *	-.01	-.21 **	.40 **	.17 **	-.15 **	-.05	.17 **	.19 **	-.10	.05	.14 *	
16. Years in USA	416	8.70	6.64	.06	-.06	.01	.01	.01	.08	.02	.00	-.06	.06	.80 **	-.11 *	.22 **	.42 **	.21 **

Note. \*  $p < .05$ ; \*\*  $p < .01$ ; c. Cannot be computed because at least one of the variables is constant.



The first hypothesis was tested with two separate, but related models. First, was a simple mediation model (PROCESS Model 4) linking workload to wellbeing via an overall indication of work-nonwork role relationship quality, as illustrated in Figure 3. Second, was a model that included multiple indicators of work-nonwork role relationship quality (PROCESS Model 4, as illustrated in Figure 4). In the first model, the indirect effect of workload on wellbeing through work-nonwork role relationship quality was significant ( $a_i b_i = -.19$ ) (as seen in Table 2). However, the remaining direct effect of workload on wellbeing was not significant ( $c_i = -.06$ ).

Considered together, these findings support Hypothesis 1, in that workload's relationship with wellbeing was fully conditioned (mediated) by a person's work-nonwork role relationship quality. It should also be noted that among the covariates, age shared a positive significant relationship with work-nonwork quality and number of years lived in the USA shared a positive significant relationship with wellbeing (as summarized in Table 3). Overall this analysis showed that the predictor, mediator, and covariates accounted for a significant proportion of the variance in participants' wellbeing (adjusted  $R^2 = .40$ ).

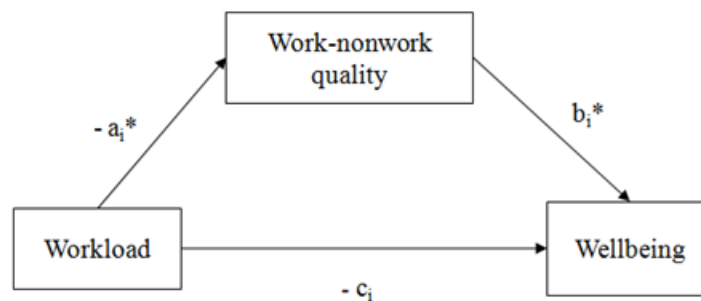


Figure 3. Model 4, Work-nonwork role relationship quality mediate the relationship between workload and wellbeing

Table 2. Model 4 Direct and Indirect effects with mediator Work-nonwork (Wnw) role relationship quality

	Coeff	SE		LLCI	ULCI
<i>Direct effect of X on Y</i>	-0.06	0.05		-0.16	0.03
<i>Indirect effect of X on Y</i>					
Wnw Quality	-0.19	0.03	*	-0.26	-0.12
Individual paths (refer to figure)					
ai1	-1.85	0.29	*	-2.43	-1.28
bi1	0.10	0.01	*	0.08	0.12
ci	-0.06	0.05		-0.16	0.03

Note.  $N = 311$ , Overall Adj  $R^2 = .40$ ,  $F = 29.2034$ , \*  $p < .05$

Table 3. Covariates in Model 4 with mediator Work-nonwork role relationship quality

Covariates	WNW Role Relationship Quality		Wellbeing
Age	0.13	*	0.00
Sex	0.25		-0.14
No. of dependents	-0.39		-0.03
Work hours	-0.05		0.00
Years in USA	0.00		0.02

Note. \*  $p < .05$

In the second model testing Hypothesis 1, the mediator work-nonwork quality was divided into four sub-dimensions: WIPL (Work interference in personal life), PLIW (Personal life interference in work), WEPL (Work enhancing personal life), and PLEW (Personal life enhancing work) (as illustrated in Figure 4). Each of these sub dimensions was then incorporated as a potential indirect pathway linking workload to wellbeing. Several of these indirect effects were identified as significant, namely WIPL ( $a_{i1}b_{i1} = -.14$ ), PLIW ( $a_{i2}b_{i2} = -.03$ ), and WEPL ( $a_{i3}b_{i3} = -.04$ ) (as seen in Table 4). The indirect effect through PLEW ( $a_{i4}b_{i4} = -.01$ ) was not significant. The remaining direct effect of workload on wellbeing was also not significant ( $c_i = -.03$ ).

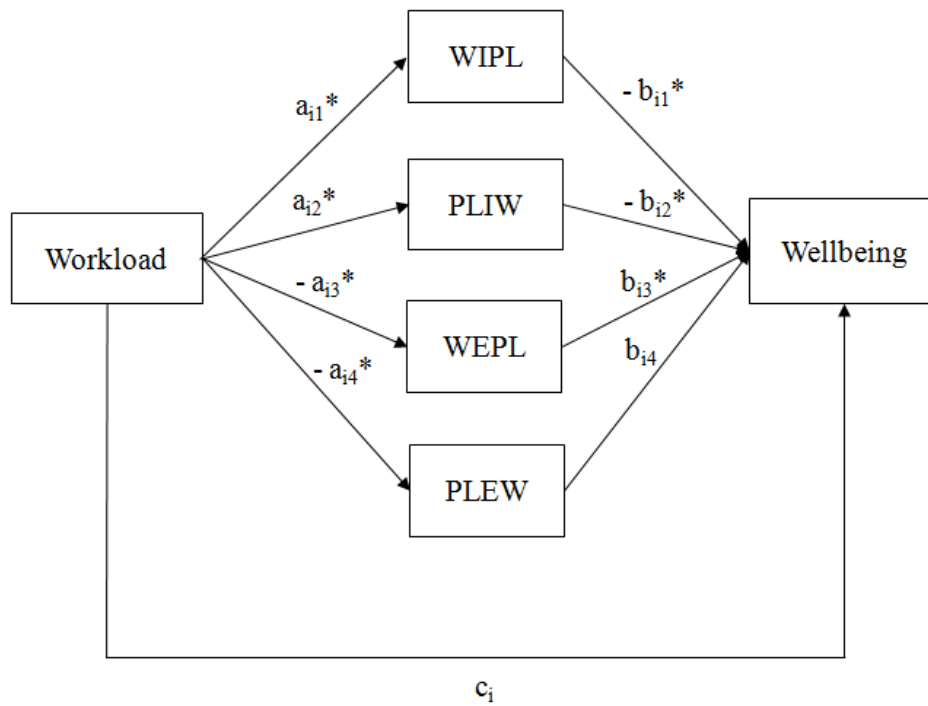


Figure 4. Model 4, WIPL(Work interference in personal life), PLIW (Personal life interfering in work life), WEPL (Work enhancing personal life), and PLEW (Personal life enhancing work life) mediate the relationship between workload and wellbeing

Table 4. Model 4 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW

	Coeff		SE	LLCI	ULCI
<i>Direct effect of X on Y</i>	-0.03		0.05	-0.13	0.06
<i>Indirect effect of X on Y</i>					
TOTAL	-0.21	*	0.04	-0.29	-0.14
WIPL	-0.14	*	0.03	-0.20	-0.08
PLIW	-0.03	*	0.02	-0.07	0.00
WEPL	-0.04	*	0.02	-0.07	-0.01
PLEW	-0.01		0.01	-0.04	0.01
<i>Individual paths (refer to figure)</i>					
ai1	1.89	*	0.25	1.40	2.37
ai2	0.70	*	0.29	0.13	1.27
ai3	-0.63	*	0.18	-0.99	-0.27
ai4	-0.50	*	0.17	-0.83	-0.18
bi1	-0.07	*	0.01	-0.09	-0.05
bi2	-0.04	*	0.01	-0.06	-0.02
bi3	0.06	*	0.02	0.03	0.09
bi4	0.02		0.02	-0.01	0.06
ci	-0.03		0.05	-0.13	0.06

Note.  $N=310$ , Overall Adj  $R^2= .41$ ,  $F= 21.0535$ , \*  $p < .05$

Table 5. Covariates in Model 4 with mediators WIPL, PLIW, WEPL, and PLEW

Covariates	WIPL	PLIW	WEPL	PLEW	Wellbeing
Age	0.00	-0.12	0.07	0.07	0.00
Sex	0.33	0.09	0.47	0.47	-0.13
No of dependents	0.26	0.58 *	0.17	-0.14	-0.03
Work hours	0.15 *	-0.04	-0.01	0.02	0.00
Years in USA	-0.08	0.01	-0.03	-0.04	0.02 *

Note. \*  $p < .05$

These results indicate that three dimensions of work-nonwork role relationship quality (WIPL, PLIW, and WEPL) completely mediate the relationship between perceived workload and perceived wellbeing, partially supporting Hypothesis 1. Also, several of the covariates were significantly related to one or more of the core study variables (as summarized in Table 5). Overall this model accounted for significant variance in participants' wellbeing (adjusted  $R^2 = .41$ ).

Hypothesis 2 was also tested with two separate, but related models. In both models, the effect of workload on wellbeing was tested, in the presence of the mediators described in the preceding results pertaining to Hypothesis 1. Also incorporated, however, were the moderating effects of work and nonwork identity salience on the direct and indirect effects of workload on wellbeing. In the first model (PROCESS Model 76, as illustrated in Figure 5) workload is linked to wellbeing via an overall indication of work-nonwork quality, but this relationship is moderated by work salience and nonwork salience. The nature of this complex effect is that the conditional direct effect of workload on wellbeing was significant for respondents who identified themselves as “low” in work salience and “high” in nonwork salience (as is evident in Table 6).

Also in this model, we observed that the conditional indirect effect of workload on wellbeing was significant through overall work-nonwork role relationship quality for all combinations of work and nonwork salience, except for participants identifying as “high” in work salience and “high” in nonwork salience. Several of the covariates were significantly related to one or more of the core study variables (as summarized in Table 7). Overall, this model showed that the predictor, mediators, moderators, and covariates accounted for significant proportions of the variance in wellbeing measure (adjusted  $R^2 = .41$ ).

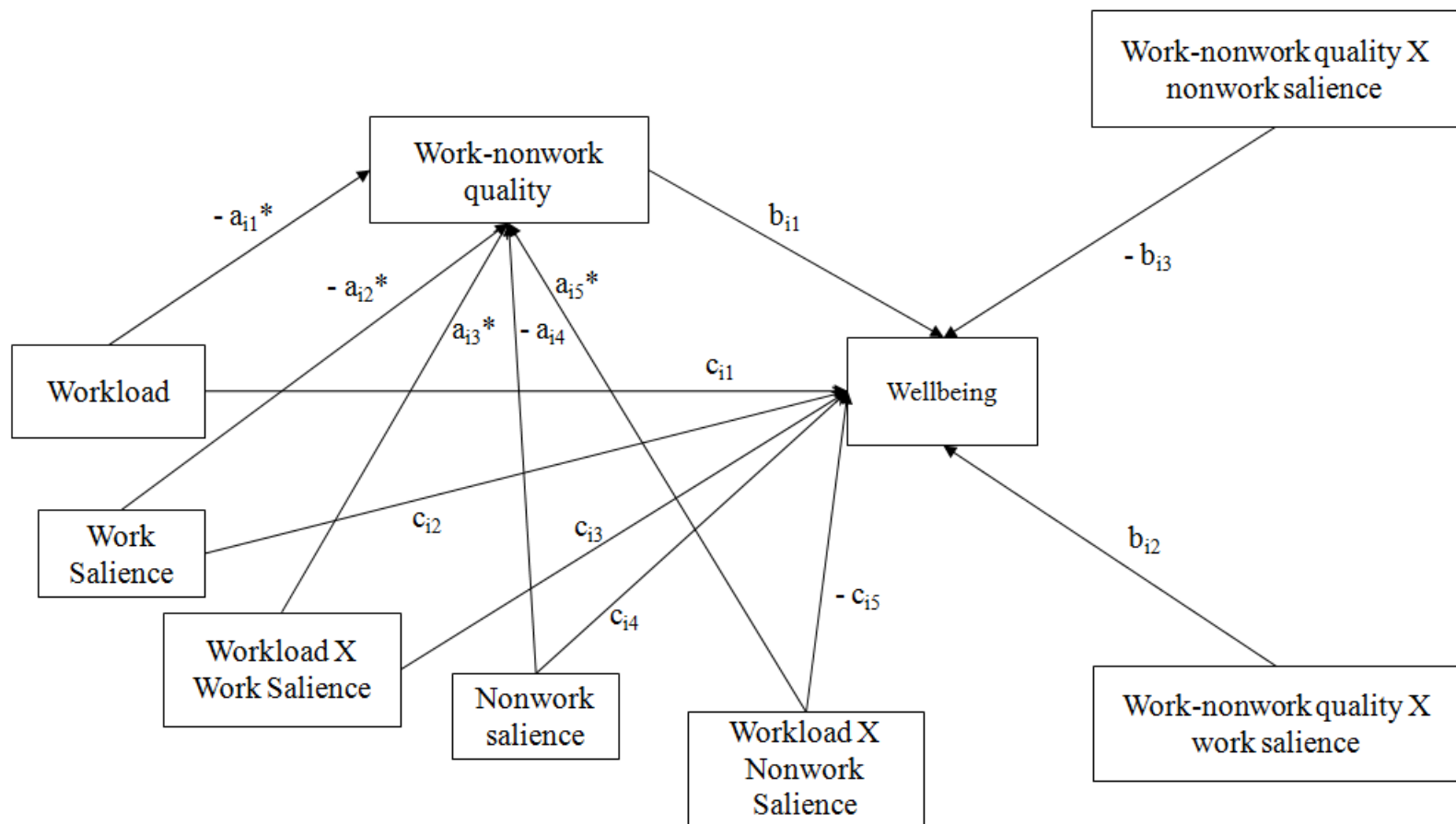


Figure 5. Model 76 with mediator Work-nonwork role relationship quality and moderators work and nonwork salience

Table 6. Model 76 Direct and Indirect effects with mediator Work-nonwork role relationship quality and moderators as work and nonwork salience

	wsalm	nwsalm	Coeff		SE	LLCI	ULCI
<i>Direct effect of X on Y</i>							
	Low	Low	-0.05		0.10	-0.25	0.15
	Low	Avg	-0.10		0.07	-0.25	0.04
	Low	High	-0.15	*	0.07	-0.29	-0.01
	Avg	Low	-0.03		0.07	-0.17	0.11
	Avg	Avg	-0.08		0.05	-0.18	0.02
	Avg	High	-0.13		0.07	-0.26	0.01
	High	Low	-0.01		0.07	-0.14	0.13
	High	Avg	-0.05		0.07	-0.19	0.08
	High	High	-0.10		0.09	-0.29	0.08
<i>Indirect effect of X on Y</i>							
wnwqual	Low	Low	-0.29	*	0.08	-0.46	-0.14
wnwqual	Low	Avg	-0.24	*	0.05	-0.36	-0.15
wnwqual	Low	High	-0.20	*	0.05	-0.31	-0.11
wnwqual	Avg	Low	-0.23	*	0.05	-0.34	-0.13
wnwqual	Avg	Avg	-0.18	*	0.03	-0.25	-0.12
wnwqual	Avg	High	-0.14	*	0.04	-0.22	-0.06
wnwqual	High	Low	-0.16	*	0.06	-0.28	-0.06
Wnwqual	High	Avg	-0.11	*	0.05	-0.21	-0.02
Wnwqual	High	High	-0.06		0.06	-0.18	0.05
<i>Individual paths (refer to figure)</i>							
ai1			-6.75	*	1.86	-10.42	-3.08
ai2			-1.75	*	0.68	-3.09	-0.40
ai3			0.66	*	0.23	0.22	1.11
ai4			-0.42		0.79	-1.97	1.14
ai5			0.43		0.26	-0.07	0.94
bi1			0.08		0.06	-0.04	0.20
ci1			0.05		0.34	-0.63	0.73
bi2			0.00		0.01	-0.01	0.02
bi3			0.00		0.01	-0.02	0.02
ci2			0.00		0.12	-0.22	0.23
ci3			0.02		0.04	-0.06	0.10
ci4			0.20		0.13	-0.06	0.46
ci5			-0.04		0.05	-0.14	0.05

Note. N=309, Overall Adj R<sup>2</sup>= .41, F=15.8174, \*p < .05

Low = M - 1SD, Avg = M, High = M + 1SD



Table 7. Covariates in Model 76 with mediator Work-nonwork role relationship quality and moderators as work and nonwork salience

Covariates	Wnw Quality		Wellbeing
Age	0.17	*	0.00
Sex	0.38		-0.13
No. of dependents	-0.47		-0.04
Work hours	-0.03		0.00
Years in USA	-0.05		0.02

*Note.* \*  $p < .05$

In the second model testing Hypothesis 2, the overall work-nonwork role relationship quality mediator was divided into four sub-dimensions: WIPL, PLIW, WEPL, and PLEW (as illustrated in Figure 6). Each of these sub-dimensions was then incorporated as a potential indirect pathway linking workload to wellbeing. The direct and indirect links were then tested for their dependence on (moderation by) respondents' reported work and nonwork salience. The conditional direct effect of workload on wellbeing was non-significant for all combinations of work salience and nonwork salience (as summarized in Table 8). However, in case of WIPL the conditional indirect effects of workload on wellbeing were significant for all combinations of work and nonwork salience except "low" work and nonwork salience and "high" work and nonwork salience combinations.

In the case of PLIW, the conditional indirect effect was significant for "low" work and "low" nonwork salience, "low" work and "avg" nonwork salience and "avg" work and "avg" nonwork salience combinations. For WEPL, the indirect effect was significant for "avg" work and "avg" nonwork salience, "avg" work and "high" nonwork salience and "high" work salience and "avg" nonwork salience combinations. The preceding results, although complex to some degree, address the rather straightforward Hypothesis 2, which was that individuals with a

predominant work salience would experience less of a strong relationship among workload, work/nonwork role relationship quality, and wellbeing. The opposite was expected for workers who were predominantly nonwork salient. The findings just summarized provide partial support for this hypothesis.

It should also be noted that several of the covariates were significantly related to one or more of the core study variables (as summarized in Table 9). Overall, this model showed that the predictor, mediators, moderators, and covariates accounted for significant proportions of the variance in wellbeing measure (adjusted  $R^2 = .43$ ).

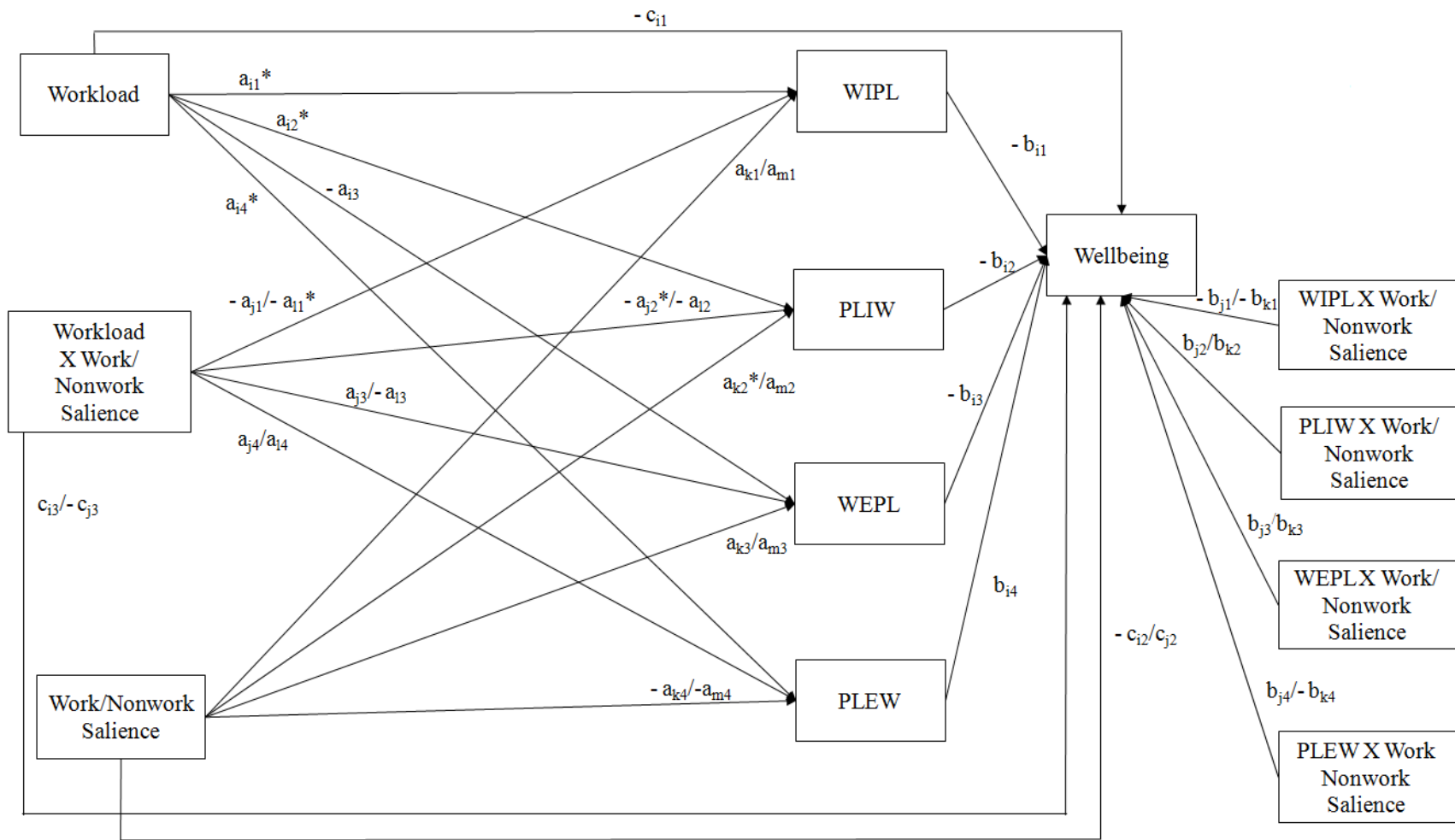


Figure 6. Model 76 with mediators WIPL, PLIW, WEPL, and PLEW and moderators work and nonwork salience

Table 8. Model 76 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW and moderators as work and nonwork salience

	wsalm	nwsalm	Coeff		SE	LLCI	ULCI
<i>Direct effect of X on Y</i>							
	Low	Low	-0.04		0.11	-0.26	0.18
	Low	Avg	-0.08		0.08	-0.24	0.07
	Low	High	-0.13		0.08	-0.27	0.02
	Avg	Low	0.01		0.08	-0.15	0.16
	Avg	Avg	-0.04		0.05	-0.14	0.06
	Avg	High	-0.08		0.07	-0.22	0.06
	High	Low	0.05		0.08	-0.10	0.21
	High	Avg	0.01		0.07	-0.14	0.15
	High	High	-0.04		0.10	-0.23	0.16
<i>Indirect effect of X on Y</i>							
WIPL	Low	Low	-0.15		0.09	-0.33	0.02
WIPL	Low	Avg	-0.14	*	0.06	-0.25	-0.03
WIPL	Low	High	-0.12	*	0.05	-0.22	-0.04
WIPL	Avg	Low	-0.15	*	0.05	-0.26	-0.05
WIPL	Avg	Avg	-0.14	*	0.03	-0.20	-0.07
WIPL	Avg	High	-0.11	*	0.04	-0.20	-0.04
WIPL	High	Low	-0.15	*	0.05	-0.25	-0.06
WIPL	High	Avg	-0.12	*	0.04	-0.22	-0.05
WIPL	High	High	-0.09		0.06	-0.22	0.01
PLIW	Low	Low	-0.10	*	0.06	-0.23	0.00
PLIW	Low	Avg	-0.07	*	0.04	-0.15	-0.01
PLIW	Low	High	-0.05		0.03	-0.13	0.00
PLIW	Avg	Low	-0.04		0.03	-0.11	0.00
PLIW	Avg	Avg	-0.02	*	0.01	-0.06	0.00
PLIW	Avg	High	-0.01		0.02	-0.05	0.01
PLIW	High	Low	0.00		0.02	-0.05	0.03
PLIW	High	Avg	0.01		0.01	-0.02	0.03
PLIW	High	High	0.01		0.02	-0.03	0.07
WEPL	Low	Low	-0.02		0.03	-0.09	0.03
WEPL	Low	Avg	-0.03		0.02	-0.08	0.01
WEPL	Low	High	-0.04		0.03	-0.11	0.00
WEPL	Avg	Low	-0.02		0.02	-0.07	0.00
WEPL	Avg	Avg	-0.04	*	0.02	-0.08	-0.01
WEPL	Avg	High	-0.05	*	0.03	-0.12	-0.01
WEPL	High	Low	-0.03		0.02	-0.08	0.01
WEPL	High	Avg	-0.05	*	0.03	-0.11	0.00

Table 8. Model 76 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW and moderators as work and nonwork salience

	wsalm	nwsalm	Coeff		SE	LLCI	ULCI
WEPL	High	High	-0.06		0.05	-0.17	0.00
PLEW	Low	Low	-0.03		0.06	-0.17	0.06
PLEW	Low	Avg	-0.01		0.03	-0.09	0.03
PLEW	Low	High	-0.01		0.02	-0.06	0.03
PLEW	Avg	Low	-0.03		0.03	-0.10	0.02
PLEW	Avg	Avg	-0.01		0.01	-0.04	0.01
PLEW	Avg	High	0.00		0.01	-0.03	0.02
PLEW	High	Low	-0.02		0.02	-0.08	0.01
PLEW	High	Avg	-0.01		0.01	-0.04	0.02
PLEW	High	High	0.00		0.02	-0.04	0.06
<i>Individual paths (refer to figure)</i>							
ai1			5.10	*	1.57	2.01	8.20
ak1			0.97		0.58	-0.16	2.11
aj1			-0.28		0.19	-0.66	0.10
am1			0.59		0.67	-0.72	1.90
al1			-0.43	*	0.22	-0.85	0.00
ai2			5.07	*	1.87	1.40	8.74
ak2			2.18	*	0.68	0.84	3.53
aj2			-0.74	*	0.23	-1.18	-0.29
am2			0.11		0.79	-1.45	1.67
al2			-0.27		0.26	-0.78	0.24
ai3			-0.38		1.17	-2.69	1.93
ak3			0.39		0.43	-0.45	1.24
aj3			0.04		0.14	-0.24	0.32
am3			0.46		0.50	-0.52	1.44
al3			-0.11		0.16	-0.43	0.21
ai4			-2.91	*	1.08	-5.05	-0.78
ak4			-0.71		0.40	-1.49	0.07
aj4			0.26		0.13	0.00	0.52
am4			-0.59		0.46	-1.49	0.32
al4			0.28		0.15	-0.02	0.57
bi1			-0.01		0.08	-0.16	0.14
bi2			-0.11		0.06	-0.23	0.02
bi3			-0.06		0.11	-0.28	0.15
bi4			0.02		0.12	-0.20	0.25
ci1			0.00		0.37	-0.74	0.73
bj1			-0.01		0.01	-0.03	0.01

Table 8. Model 76 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW and moderators as work and nonwork salience

	wsalm	nwsalm	Coeff	SE	LLCI	ULCI
bj2			0.01	0.01	-0.01	0.02
bj4			0.01	0.01	-0.02	0.04
bk1			-0.01	0.01	-0.03	0.01
bk2			0.01	0.01	-0.01	0.03
bk3			0.01	0.02	-0.02	0.04
bk4			-0.01	0.02	-0.04	0.03
ci2			-0.26	0.22	-0.69	0.17
ci3			0.04	0.05	-0.05	0.13
cj2			0.14	0.27	-0.38	0.67
cj3			-0.04	0.05	-0.14	0.06

*Note.*  $N = 309$ , Overall Adj  $R^2 = .43$ ,  $F = 9.7595$ , \*  $p < .05$   
Low =  $M - 1SD$ , Avg =  $M$ , High =  $M + 1SD$

Table 9. Covariates in Model 76 with mediators WIPL, PLIW, WEPL, and PLEW and moderators as work and nonwork salience

Covariates	WIPL	PLIW	WEPL	PLEW	Wellbeing
Age	-0.05	-0.15 *	0.06	0.08 *	0.00
Sex	0.24	0.04	0.53	0.51	-0.12
No. of dependents	0.31	0.65 *	0.17	-0.16	-0.03
Work hours	0.12 *	-0.06	-0.02	0.03	0.00
Years in USA	-0.04	0.05	-0.03	-0.06	0.02 *

*Note.* \*  $p < .05$

Hypothesis 3, involving minibreak taking and break time as moderators, was tested with four separate, but related models. Also in these models, the effect of workload on wellbeing was tested, in the presence of the mediators described in the preceding results pertaining to Hypothesis 1. The first model was a simple moderated mediation model (PROCESS Model 59, illustrated in Figure 7) linking workload to wellbeing via an overall indication of work-nonwork role relationship quality, with the direct and indirect links were tested for their dependence on

(i.e., moderation by) respondents' reported minibreak taking behavior (minibrk, coded as 1=regularly takes minibreaks and 2=do not take minibreaks). It was found that work-nonwork quality's effect on wellbeing was dependent on whether workers took minibreaks ( $b_{i2}$  as in figure 7 and also as summarized in Table 10). However, the conditional direct effects linking workload to wellbeing were non-significant for both minibreakers and non-minibreakers. Overall the conditional indirect effects show that frequent minibreaks reduced the strength of the relationship between workload, work-nonwork role relationship quality and wellbeing.

This model showed that the predictor, mediators, and covariates accounted for significant proportions of the variance in wellbeing measure (adjusted  $R^2 = .44$ ). In particular, it is worth noting that covariate number of years spent in the USA shared a positive significant relationship with wellbeing (as summarized in Table 11).

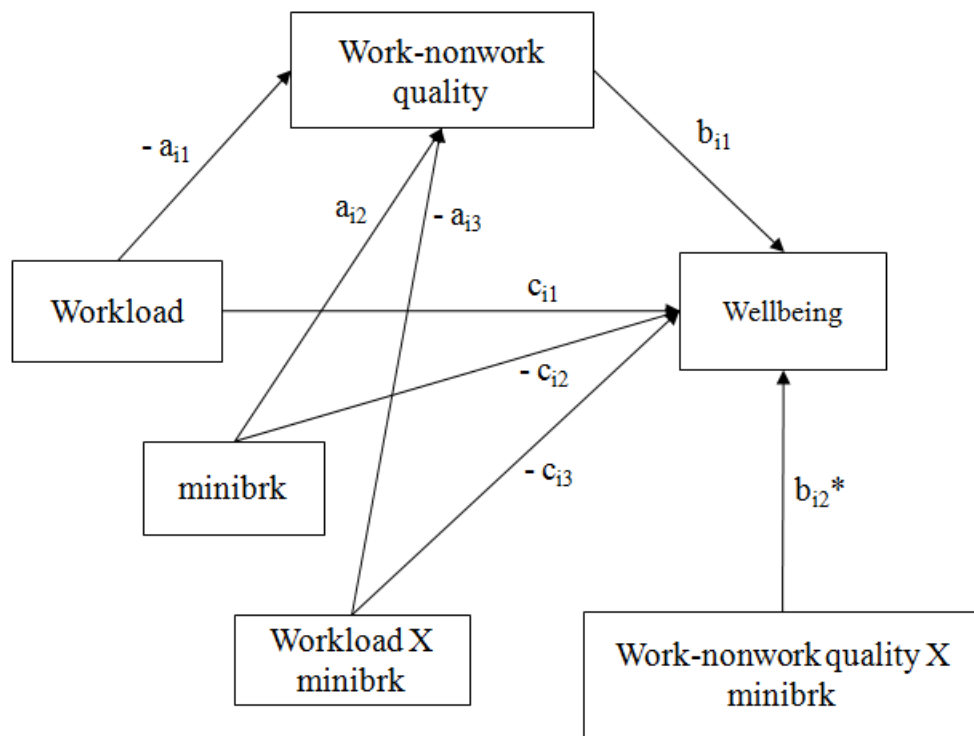


Figure 7. Model 59 with mediator Work-nonwork role relationship quality and moderator minibrk (minibreak frequency)



Table 10. Model 59 Direct and Indirect effects with mediator Work-nonwork role relationship quality and moderator minibrk (minibreak frequency)

	Coeff	SE	LLCI	ULCI
<i>Direct effect of X on Y</i>				
Break taker	-0.03	0.05	-0.14	0.08
Non-breaktaker	-0.06	0.08	-0.23	0.10
<i>Indirect effect of X on Y</i>				
Break taker	-0.16 *	0.04	-0.23	-0.08
Non-Breaktaker	-0.31 *	0.07	-0.45	-0.17
<i>Individual paths (refer to figure)</i>				
ai1	-1.37	0.81	-2.97	0.23
ai2	1.37	1.83	-2.23	4.98
ai3	-0.41	0.59	-1.56	0.74
bi1	0.03	0.03	-0.02	0.09
bi2	0.05 *	0.02	0.01	0.09
ci1	0.00	0.13	-0.26	0.26
ci2	-0.05	0.29	-0.62	0.51
ci3	-0.03	0.10	-0.22	0.16

Note.  $N = 306$ , Overall Adj  $R^2=.44$ ,  $F=23.4673$ , \*  $p<.05$

Table 11. Covariates in Model 59 with mediator Work-nonwork role relationship quality and moderator minibrk (minibreak frequency)

Covariates	Wnw Quality	Wellbeing
Age	0.11	0.00
Sex	0.17	-0.12
No. of dependents	-0.43	-0.03
Work hours	-0.05	0.00
Years in USA	0.02	0.02 *

Note. \*  $p < .05$

In the second model testing Hypothesis 3, work-nonwork role relationship quality was divided into four sub-dimensions (PROCESS Model 59, as illustrated in Figure 8). Each of these sub-dimensions was then incorporated as a potential indirect pathway linking workload to

wellbeing. Of the sub-dimensions of work-nonwork role relationship quality, the direct effects of workload on wellbeing were not moderated by minibreak taking behavior. It was, however, observed that workload's indirect effects on wellbeing through WIPL and PLIW were moderated by minibrk, such that they remained significant only for those who took minibreaks (as summarized in Table 12). Similarly, the indirect effect of workload on wellbeing through WEPL was also moderated by minibrk, remaining significant only for those who did not take regular minibreaks.

It should also be noted that in this model, several of the covariates were significantly related to one or more of the core study variables (as summarized in Table 13). Altogether, this model explained a significant proportion of the variance in wellbeing (adjusted  $R^2 = .47$ ).

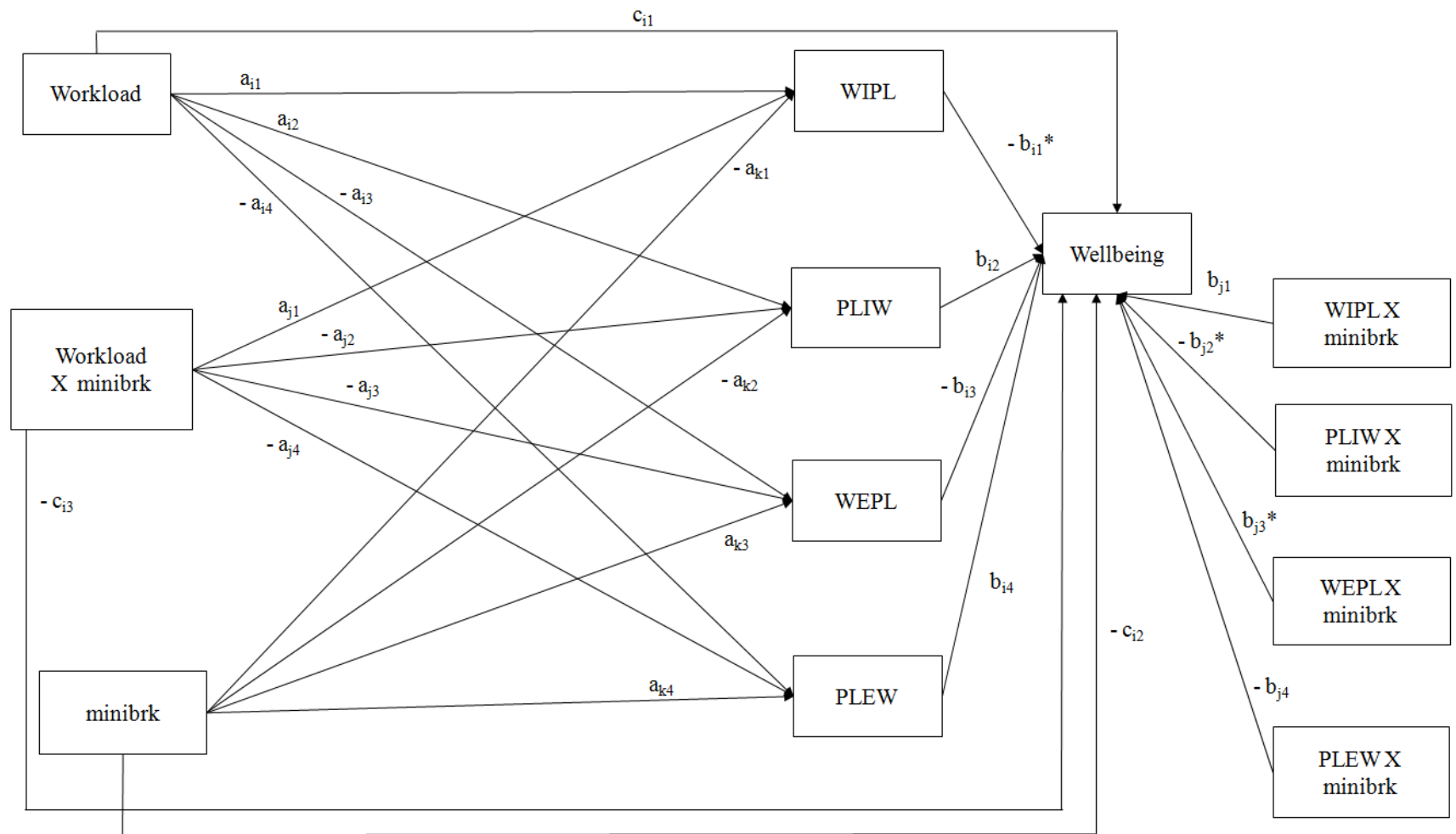


Figure 8. Model 59 with mediators WIPL, PLIW, WEPL, and PLEW and moderator minibrk (minibreak frequency)

Table 12. Model 59 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW and moderator minibrk (minibreak frequency)

	minibrk	Coeff		SE	LLCI	ULCI
<i>Direct effect(s) of X on Y</i>						
	Break taker	0.01		0.06	-0.09	0.12
	Non-breaktaker	-0.15		0.09	-0.32	0.03
<i>Indirect effect(s) of X on Y</i>						
WIPL	Break taker	-0.13	*	0.04	-0.21	-0.06
WIPL	Non-breaktaker	-0.08		0.05	-0.17	0.01
PLIW	Break taker	-0.02	*	0.01	-0.06	0.00
PLIW	Non-breaktaker	-0.07		0.05	-0.18	0.02
WEPL	Break taker	-0.01		0.01	-0.05	0.01
WEPL	Non-breaktaker	-0.09	*	0.05	-0.19	0.00
PLEW	Break taker	-0.02		0.02	-0.06	0.00
PLEW	Non-breaktaker	-0.02		0.03	-0.08	0.04
<i>Index of Moderated mediation</i>						
WIPL		0.05		0.06	-0.06	0.16
PLIW		-0.04		0.05	-0.16	0.05
WEPL		-0.08		0.05	-0.18	0.02
PLEW		0.01		0.03	-0.06	0.07
<i>Individual paths (refer to figure)</i>						
ai1		1.26		0.68	-0.08	2.59
ak1		-0.59		1.53	-3.59	2.41
aj1		0.50		0.49	-0.46	1.46
ai2		0.93		0.80	-0.65	2.50
ak2		-1.07		1.80	-4.61	2.48
aj2		-0.13		0.58	-1.26	1.00
ai3		-0.33		0.51	-1.32	0.67
ak3		0.19		1.14	-2.04	2.43
aj3		-0.24		0.36	-0.96	0.47
ai4		-0.28		0.46	-1.19	0.63
ak4		0.84		1.04	-1.21	2.89
aj4		-0.18		0.33	-0.84	0.47

Note.  $N = 305$ , Overall Adj  $R^2 = .47$ ,  $F = 15.7454$ , \*  $p < .05$

Table 13. Covariates in Model 59 with mediators WIPL, PLIW, WEPL, and PLEW and moderator minibrk (minibreak frequency)

Covariates	WIPL	PLIW	WEPL	PLEW	Wellbeing
Age	0.00	-0.11	0.06	0.06	0.00
Sex	0.23	0.29	0.44	0.43	-0.13
No. of dependents	0.27	0.60 *	0.14	-0.16	-0.02
Work hours	0.15 *	-0.03	-0.01	0.02	0.00
Years in USA	-0.09	0.00	-0.01	-0.03	0.02 *

Note. \*  $p < .05$

The third model testing Hypothesis 3 was a simple moderated mediation model (PROCESS Model 59) linking workload to wellbeing via an overall indication of work-nonwork role relationship quality, as illustrated in Figure 9. The model depicts the mediation of the effect of workload on wellbeing by work-nonwork role relationship quality, with both direct and indirect effects moderated by the amount of time participants typically spend when taking minibreaks (brktime). Note that average amount of time on minibreaks for participants remaining in this analysis after listwise deletion of partial missing cases was 11.35 minutes ( $SD = 8.31$ ); low break times =  $M - 1 SD$  while high break times =  $M + 1 SD$ . The direct effect of workload on wellbeing was not moderated by brktime (as summarized in Table 14). However, the conditional indirect effect of workload on wellbeing through work-nonwork role relationship quality was significant for participants who reported taking low, average, and high break times.

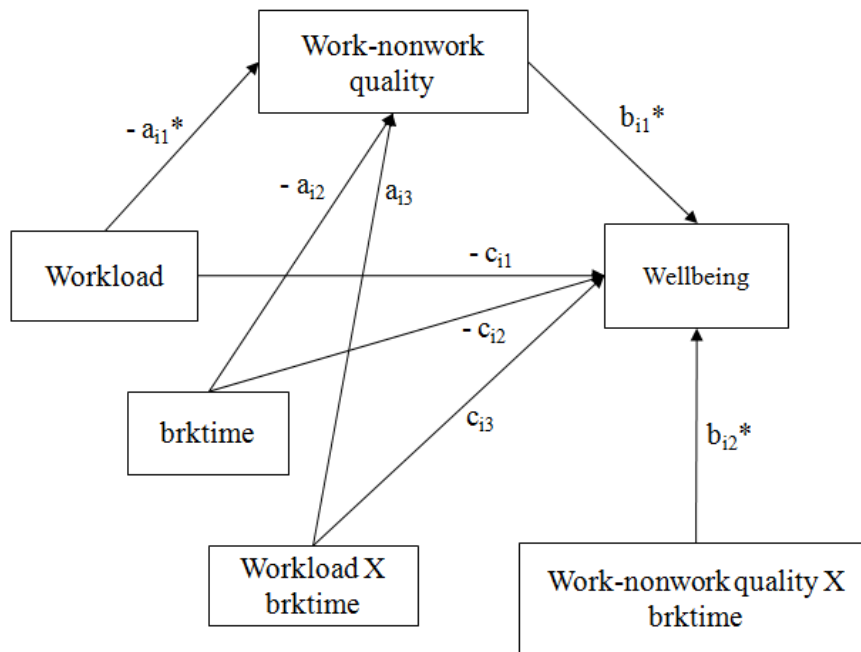


Figure 9. Model 59 with mediator Work-nonwork role relationship quality and moderator brktime (minibreak time)

Table 14. Model 59 Direct and Indirect effects with mediator Work-nonwork role relationship quality and moderator brktime (minibreak time)

	brktime	Coeff		SE	LLCI	ULCI
<i>Direct effect of X on Y</i>						
	Low	-0.10		0.08	-0.25	0.05
	Avg	-0.01		0.06	-0.12	0.10
	High	0.08		0.07	-0.06	0.22
<i>Indirect effect of X on Y</i>						
Wnw Quality	Low	-0.12	*	0.05	-0.23	-0.04
Wnw Quality	Avg	-0.16	*	0.04	-0.25	-0.08
Wnw Quality	High	-0.20	*	0.07	-0.36	-0.09
<i>Individual paths (refer to figure)</i>						
ai1		-1.82	*	0.60	-2.99	-0.64
ai2		-0.04		0.12	-0.27	0.20
ai3		0.00		0.04	-0.07	0.08
bi1		0.06	*	0.02	0.02	0.09
bi2		0.00	*	0.00	0.00	0.01
ci1		-0.13		0.09	-0.31	0.05
ci2		-0.02		0.02	-0.05	0.01
ci3		0.01		0.01	0.00	0.02

Note.  $N = 221$ , Overall Adj  $R^2 = .39$ ,  $F = 13.6088$ ,  $*p < .05$

Low = 3.05, Avg = 11.34, High = 19.64

Table 15. Covariates in Model 59 with mediator Work-nonwork role relationship quality and moderator brktime (minibreak time)

Covariates	Wnw Quality	Wellbeing
Age	0.12	0.00
Sex	0.21	-0.19
No. of dependents	-0.40	-0.03
Work hours	-0.07	-0.01
Years in USA	0.02	0.03

Note.  $*p < .05$

This model showed that the predictor, mediators, moderator, and covariates accounted for significant proportions of the variance in wellbeing measure (adjusted  $R^2 = .39$ ). In particular, it should be noted that number of years in the USA was significantly associated with wellbeing (as summarized in Table 15).

The fourth and final model testing Hypothesis 3 tested the conditioned effect of workload on wellbeing via multiple indicators of work-nonwork role relationship quality, with both direct and indirect effects moderated by typical time spent on minibreaks (brktime) (PROCESS Model 59, as illustrated in Figure 10). Note that average amount of time on minibreaks for participants remaining in this analysis after listwise deletion of partial missing cases was 11.35 minutes ( $SD = 8.31$ ); low break times =  $M - 1 SD$  while high break times =  $M + 1 SD$ . It was found that the conditional direct effect of workload on wellbeing was significantly moderated by time spent on minibreaks, such that it remained significant for those who took higher than average time on minibreaks, but not for those who took average or less than average time on minibreaks (as summarized in Table 16). It was also found that the conditional indirect effect of workload on wellbeing was significant through WIPL for workers who took average or longer time on minibreaks. The conditional indirect effect of workload on wellbeing was also significant through PLIW and PLEW for workers who took an average amount of time on minibreaks.

From this analysis, it should also be noted that several of the covariates were significantly related to one or more of the core study variables (as summarized in Table 17). Overall this final model accounted for significant proportions of the variance in participants' wellbeing (adjusted  $R^2 = .42$ ).



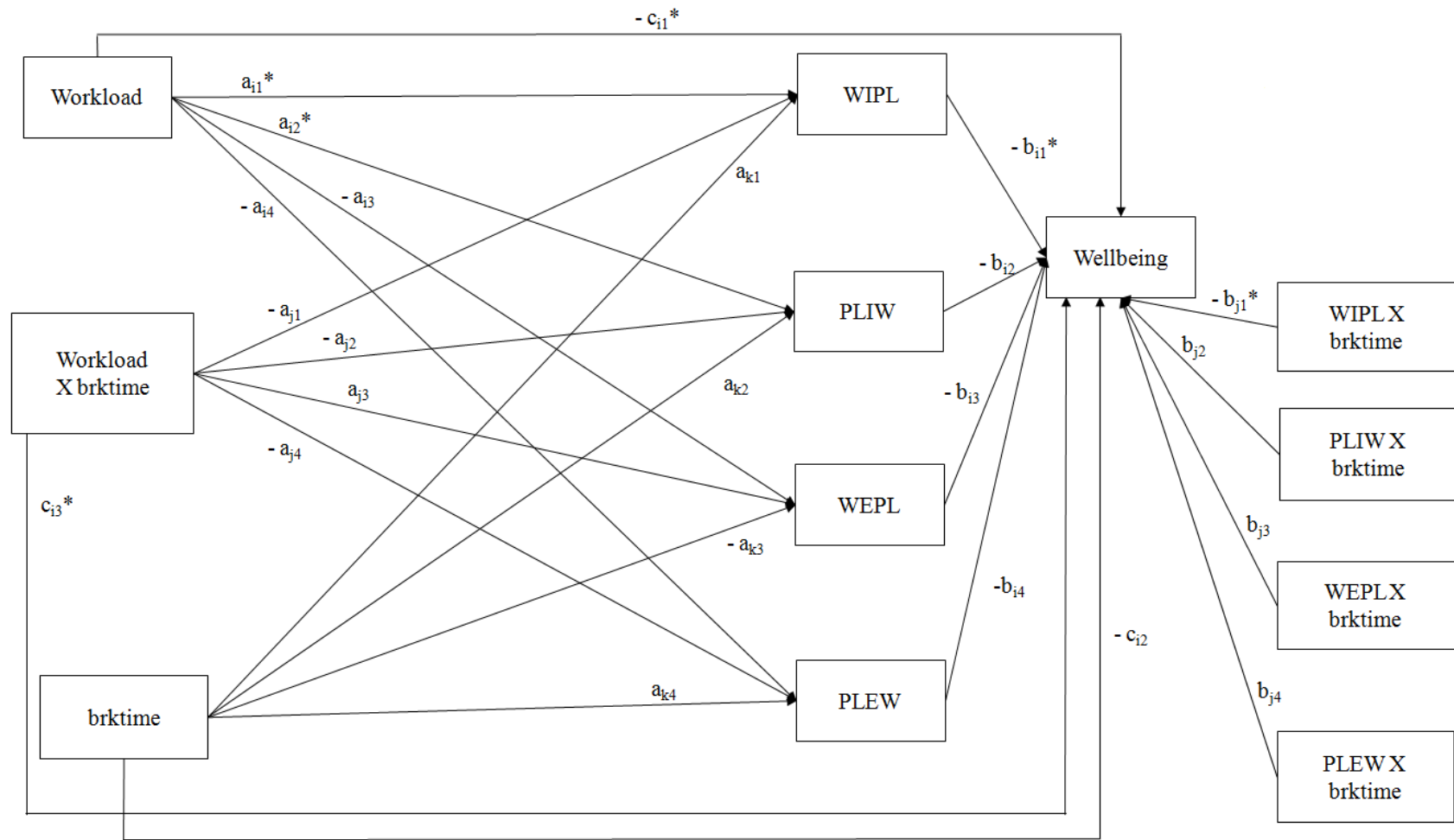


Figure 10. Model 59 with mediators WIPL, PLIW, WEPL, and PLEW and moderator brktime (minibreak time)

Table 16. Model 59 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW and moderator brktime (minibreak time)

	brktime	Coeff		SE	LLCI	ULCI
<i>Direct effect of X on Y</i>						
	Low	-0.16		0.09	-0.34	0.02
	Avg	0.04		0.06	-0.07	0.15
	High	0.24	*	0.10	0.04	0.44
<i>Indirect effect of X on Y</i>						
WIPL	Low	-0.07		0.05	-0.17	0.02
WIPL	Avg	-0.12	*	0.04	-0.20	-0.05
WIPL	High	-0.14	*	0.08	-0.34	-0.03
PLIW	Low	-0.05		0.04	-0.14	0.00
PLIW	Avg	-0.03	*	0.02	-0.07	0.00
PLIW	High	-0.01		0.02	-0.06	0.03
WEPL	Low	0.00		0.02	-0.05	0.03
WEPL	Avg	-0.02		0.01	-0.05	0.01
WEPL	High	-0.05		0.03	-0.12	0.01
PLEW	Low	0.00		0.01	-0.04	0.02
PLEW	Avg	-0.03	*	0.02	-0.07	0.00
PLEW	High	-0.07		0.04	-0.16	0.00
<i>Individual paths (refer to figure)</i>						
ai1		2.05	*	0.47	1.13	2.96
ak1		0.13		0.09	-0.05	0.31
aj1		-0.04		0.03	-0.10	0.02
ai2		1.35	*	0.60	0.16	2.54
ak2		0.15		0.12	-0.08	0.39
aj2		-0.04		0.04	-0.11	0.04
ai3		-0.24		0.35	-0.93	0.45
ak3		0.10		0.07	-0.04	0.23
aj3		-0.03		0.02	-0.07	0.02
ai4		-0.03		0.34	-0.70	0.64
ak4		0.10		0.07	-0.03	0.24
aj4		-0.04		0.02	-0.08	0.00
bi1		-0.02		0.02	-0.07	0.03
bi2		-0.04	*	0.02	-0.08	0.00
bi3		-0.01		0.04	-0.08	0.06
bi4		0.01		0.04	-0.06	0.09
ci1		-0.23	*	0.12	-0.46	0.00
bj1		0.00	*	0.00	-0.01	0.00
bj2		0.00		0.00	0.00	0.00

Table 16. Model 59 Direct and Indirect effects with mediators WIPL, PLIW, WEPL, and PLEW and moderator brktime (minibreak time)

	brktime	Coeff	SE	LLCI	ULCI
bj4		0.00	0.00	0.00	0.01
ci2		-0.10	0.05	-0.20	0.00
ci3		0.02 *	0.01	0.01	0.04

*Note.*  $N = 220$ , Overall Adj  $R^2 = .42$ ,  $F = 9.0118$ , \*  $p < .05$   
Low = 3.04, Avg = 11.35, High = 19.66

Table 17. Covariates in Model 59 with mediator WIPL, PLIW, WEPL, and PLEW and moderator brktime (minibreak time)

Covariates	WIPL	PLIW	WEPL	PLEW	Wellbeing
Age	-0.06	-0.15	0.02	0.03	0.00
Sex	-0.22	0.14	0.53	0.12	-0.21
No. of dependents	0.43	0.59	0.23	-0.02	-0.01
Work hours	0.22 *	-0.05	0.00	0.03	0.00
Years in USA	-0.08	0.03	0.00	-0.02	0.03 *

*Note.* \*  $p < .05$

In summary with respect to Hypothesis 3, it was anticipated that relatively brief, frequent breaks while at work would reduce the strength of relationships between work-related stress, work/nonwork role relationship quality, and wellbeing. Infrequent and/or longer breaks were expected to strengthen the links between work-related stressors, work/nonwork role relationship quality, and wellbeing. As summarized in the preceding paragraphs, four PROCESS model yielded results that partially support this hypothesis.

## **CHAPTER IV**

### **DISCUSSION**

The results from the present study completely support Hypothesis 1 and partially support Hypothesis 2 and Hypothesis 3. Collectively, these hypotheses were tested to better understand the work-nonwork identity salience and work-related break taking behaviors of Indian expatriates working in the IT industry in the USA. Each of these hypothesis was tested separately using an overall indication of work-nonwork role relationship quality and four separate sub-dimensions of work-nonwork role relationship quality (WIPL (work interfering in personal life), PLIW (personal life interfering in work), WEPL (work enhancing in personal life) and PLEW (personal life enhancing work life)).

In support of Hypothesis 1, work-nonwork relationship quality completely conditioned (mediated) the relationship between participants' perceived workload and wellbeing. Stressors in work roles contributed to a person's feeling of work-nonwork role relationship quality and these relationships impacted a person's overall sense of wellbeing as supported in previous studies (e.g., Major, Klein, & Ehrhart, 2002; Stephens, Townsend, Martire, & Druley, 2001). The overall effect of work-nonwork relationship quality in direct and indirect paths was negative which indicate that individuals in this population perceive more interference than enhancement. In the second model testing Hypothesis 1, the mediator work-nonwork quality was divided into four sub-dimensions WIPL, PLIW, WEPL, and PLEW. The results showed that except for PLEW, the other sub-dimensions completely mediated the relationship between workload and wellbeing.

This shows that WIPL, PLIW and WEPL play a significant role in the relationship between workload and wellbeing for this population. In other words, workload's relationship with wellbeing is a negative one, but most of this negative impact seems to channel through heightened levels of WIPL, not through PLIW, WEPL, or PLEW.

Hypothesis 2 was partially supported from the results of two separate, but related models. In these models, it was interesting to note that both the direct and indirect effect of workload on wellbeing was significant for respondents who identified themselves as "low" in work salience and "high" in nonwork salience (as is evident in Table 4a). The overall effect of work-nonwork relationship quality in direct and indirect paths was negative which indicate that individuals in this population perceive more interference than enhancement. Previous research has shown that individuals who treated work and nonwork roles differently found one role to be more salient and central when compared to the other (Thompson & Bunderson, 2001). There is also some evidence of differences in work/nonwork role management preferences for Indians working in India or the USA in high technology firms; employees in India preferred separation between work and family spheres, while the opposite was true among employees in United States (Poster & Prasad, 2005).

In the second model testing Hypothesis 2, no direct effect of workload on wellbeing were observed. The results also showed that workload's indirect effects on wellbeing via PLEW were not moderated by participants' reported work or nonwork salience. These findings suggest that among these participants, greater identification with work or nonwork roles does not appear to influence the degree to which one's personal life may enhance one's work life. The other dimensions of work-nonwork role relationship quality did function as mediators of workload's effects on wellbeing and these pathways were further conditioned by participants' work and

nonwork salience, with different combinations of work and nonwork salience affecting these relationships to different degrees. Overall, WIPL and WEPL were associated with a negative effect on wellbeing, while PLIW and PLEW were less. It was also interesting to note that the relationship between workload and wellbeing was weakened for individuals with stronger levels of nonwork salience than work salience, perhaps suggesting that identifying with nonwork aspects of life can also be protective for one's wellbeing.

There was also partial support for Hypothesis 3 involving minibreak taking and break time as moderators which was tested with four separate, but related models. In the first model, it was interesting to note that both break taking and non break taking conditions had significant impact on the indirect link via work-nonwork role relationship quality. This indicates that some individuals in this population felt frequent minibreaks would help unwind and combat work stress (Fritz, Ellis, Demsky, Lin, & Guros, 2013) and there were some who felt frequent minibreaks would be disruptive and cause stress (Jett & George, 2003). The overall effect of work-nonwork relationship quality both break taking conditions in direct and indirect paths was negative which indicate that individuals in this population perceive more interference than enhancement. In the second model partially supporting Hypothesis 3, the conditional indirect effects showed that frequent minibreaks reduced the strength of the relationship between workload, WIPL and wellbeing. Also, frequent minibreaks reduced the strength of the relationship between workload, PLIW and wellbeing. Only in the case of WEPL, non-minibreak condition reduced the strength of the relationship between workload, WEPL and wellbeing. These individuals may not be taking breaks in order to complete work early and spend the extra time with family (e.g., as one participant noted, "I like to finish off the work at a stretch and reach home early so that good share of time is also spent with family"). Minibreak taking

conditions had no effect on the relationships between workload, PLEW, and wellbeing in this population. However it is interesting to note that most of the negative impact between workload and wellbeing seems to channel through heightened levels of WIPL for individuals taking minibreak.

In the third model partially supporting Hypothesis 3, the conditional indirect effects showed that low, average, and high minibreak times reduced the strength of the relationship between workload, work-nonwork role relationship quality and wellbeing. The overall effect of work-nonwork relationship quality in the direct path was negative for average and less than average break time. In case of indirect paths overall effect of work-nonwork relationship quality was negative for low, average and high break time. This indicates that individuals in this population perceive more interference than enhancement. In the fourth model, it was observed that only high minibreak times reduced the strength of the relationships between workload, WIPL, and wellbeing. From the direct effect, it was observed that individuals who took low minibreak times had negative impact on wellbeing and individuals who took high minibreak times had more positive impact on wellbeing. Average break times were also associated with a weakening of the indirect effects of workload on wellbeing through WIPL, PLIW, and PLEW. In this scenario as well, most of the negative impact between workload and wellbeing seems to channel through heightened levels of WIPL for average and higher than average breaktimes. There was also no effect of minibreak time on WEPL as a mediator of the relationship between workload and wellbeing. The net implications of these findings are that the taking of minibreaks, even rather short ones, can help in reducing the negative effects of workload on wellbeing. This is consistent with previous research on the positive effects of breaktaking as mechanisms for recovering lost energy (e.g., Sonnentag & Krueger, 2007). There is also a connection to be made

here between the present findings involving PLEW as a mediator of the workload to wellbeing relationship and past findings that time spent on family, hobby, and interests can increase productivity, creativity and satisfaction (Buck, Lee, MacDermid, & Smith, 2001).

From these analyses it was also observed that participants' age was positively associated with work-nonwork role relationship quality for Model 4 testing Hypothesis 1. Age was also positively associated with PLEW and negatively associated with PLIW in Model 76 testing Hypothesis 2. These latter findings, although separate from the primary focus of the hypothesis tests, suggest that among Indian expatriates in IT, work-nonwork role relationship quality may be better or at least differently managed by older adults. In particular, it was seen that personal life enhances work life with age and personal life interfering in work life reduces with increase in age. It was also interesting to note that long work hours were associated with an increase in work interference in personal life for all the models (PROCESS Model 4, Model 76, and Model 59). This is consistent with previous research on the relationship between workload and work-family/nonwork conflict (e.g., Eby et al., 2005; Sonnentag et al., 2008). Also, this was expected of this population in the USA as previous qualitative studies have shown that Indian IT expatriates in Germany work long hours, especially when they feel lonely (Meijering & Van Hoven, 2003) and long working hours and staying overnight at work to meet project deadlines are typical in the life of IT professionals in India (Agrawal, 2000; Upadhyia & Vasavi, 2006).

Participants' number of dependents was also positively associated with experienced PLIW for all the models. This could simply be due to increased pressures at home as the number of dependents increases. Similar to what was observed regarding age, wellbeing among members of this population increased with the passage of time spent in the USA for all the models. These



points deserve further study, but are in-line with previous research on rate of acculturation and cultural adjustments in expatriates (Nguyen & William, 1989; Uba, 1994; Ying, 1998).

### **Limitations and Future Research Directions**

Identity salience and break taking behavior moderated the relationships between workload, work-nonwork role relationship quality, and wellbeing in Indian expatriates, but not consistently or for all mediational pathways as initially anticipated. Related to this finding is a limitation of the present study, in that there could be other moderators that might more completely explain or condition the primary mediated relationships linking workload to wellbeing through work-nonwork role relationships quality. The present study and these findings make it clear that there is more to understand about the mechanisms by which individual differences in identity salience and experiences with work-nonwork role relationships can influence internal stressor-strain relationships. Future research within this type of expatriate population may be strengthened by including reason for expatriation, extent of cross cultural adjustment, organizational coping strategies, and cultural intelligence as moderators and in the current model. Personality traits such as empathy, openness, flexibility, tolerance, self-confidence, optimism, independence, and intelligence (Gertsen, 1992) can also be incorporated as potential covariates or predictors in future efforts to more fully explain expatriate wellbeing.

The present study serves as a starting point to investigate further into the stressors, work roles and nonwork roles in Indian expatriates. Workload was the only stressor used in this study. Future research could include other job related stressors such as cross cultural adjustment, job/task characteristics (role ambiguity, role clarity, role discretion, role overload and role novelty), issues between parent and host country work set-up, communication issues, gender

issues, blocked career progression, differences in compensation and quality of superior-subordinate relationship. Future research may also include personal stressors such as family issues, dual-career couple and psychological acceptance (i.e., acceptance of expatriate by colleagues, subordinates, supervisor and organization as a whole). Future studies should also test for other outcomes such as performance, job satisfaction, and turnover in Indian expatriates working in the IT industry in the USA. The break taking behaviors of Indian expatriates can be studied more in detail by using observational data collection techniques or by using monitoring devices at workplace. Using the same model, future research may also focus on comparing the current study with other expatriate population's stressors, work-nonwork roles, identity salience and break taking behaviors.

## **Implications and Conclusion**

The findings in this research bring to light the work-nonwork role relationship quality, identity salience and break taking behaviors in Indian expatriates working in the IT industry in the USA. It was found that work-nonwork role relationship quality plays an important role as a conditioning variable affecting the relationship between workload and wellbeing for workers in this population. An implication of these findings is that organizations can help in improving the quality of work and nonwork roles of these employees by facilitating positive work-nonwork role relationship quality among its workers and their families and communities. Related to this, the present findings support efforts to teach expatriates work and nonwork relevant strategies for coping with the challenges of expatriation, including trainings to prepare before departure, to be aware of cross-cultural issues and challenges, to understand and function with language differences, and to address practical needs (e.g., family acculturation in communities, job

training, how to interact with supervisors, etc.). There is also a need for organizations that employ expatriates to work on providing organizational support that addresses work/nonwork needs, priorities (emotionally, physically and psychologically; e.g., Koteswari & Bhattacharya, 2007) and train its employees to be culturally sensitive towards its newly hired expatriates.

In the present data it was interesting that the sample of Indian expatriates self-identified as more nonwork than work salient. Contrary to widely held stereotypical beliefs about work centrality among Indian professionals, these data suggest that at least the present participants put a great deal of importance on family and life outside of work. Hence it is important for organizations in India and the USA to understand the family commitments and adjustment capabilities before selecting Indian expatriates for an international assignment. This could help in the reduction of failure of expatriate assignments. The present results showed that frequent minibreaks and break time helped reduce the strength of the relationship between workload, work-nonwork role relationship quality and wellbeing. Therefore, it is important for organizations (especially the IT domain where Indian expatriates work long hours) to encourage its employees to take minibreaks to overcome the stressful work situations and create healthy work environments.

In conclusion, the results of this study can help businesses in the USA and India understand the various challenges faced by Indian expatriates which can aid in building key business connections and motivating employees. These findings can also encourage the research community to develop more comprehensive and nuanced models of the relationships between stress and health outcomes, conditioned by individual and contextual differences. Such models can dramatically improve our understanding of work-nonwork interrole management and the adjustment of Indian expatriates.

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APPENDIX A  
IRB APPROVAL LETTER

Institutional Review Board  
Dept. 4915  
615 McCallie Avenue  
Chattanooga, TN 37403-2598  
Phone: (423) 425-5867  
Fax: (423) 425-4052  
instrb@utc.edu  
<http://www.utc.edu/irb>

**MEMORANDUM**

TO: Pooja Bangalore Vijayakumar **IRB # 14-097**  
Dr. Chris Cunningham

FROM: Lindsay Pardue, Director of Research Integrity  
Dr. Bart Weathington, IRB Committee Chair

DATE: July 16, 2014

SUBJECT: IRB # 14-097: Work-life Balance, Breaks, and Identity Salience in Indian Expatriates

The Institutional Review Board has reviewed and approved the following changes for the IRB project listed below:

- Changes to originally proposed incentive structure
- Modifications to the measures included in the project survey
- Participants asked to provide additional information regarding reasons for expatriation
- Additional questions added to the demographics portion of the survey

You must include the following approval statement on research materials seen by participants and used in research reports:

***The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project # 14-097.***

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page <http://www.utc.edu/irb> or email [instrb@utc.edu](mailto:instrb@utc.edu)

Best wishes for a successful research project.

APPENDIX B

SURVEY MEASURES GIVEN TO PARTICIPANTS

#### **Informed Consent Form**

##### **Purpose of the Study:**

This study is being conducted by Pooja Bangalore Vijayakumar, a graduate student in industrial and organizational psychology at The University of Tennessee at Chattanooga, under the supervision of Dr. Chris Cunningham. The purpose is to better understand various work- and health-related challenges faced by Indian Expatriates working in the IT industry in the US. There has been limited research conducted on the Indian expatriate population in the US and *your honest and complete participation in this study will help identify various issues and challenges faced by this population.*

##### **What will be done:**

If you agree to participate you will be asked to respond to a brief survey, which will take no more than 20 minutes of your time to complete. This survey includes questions about your work environment, work and nonwork life roles, general perceptions of stress, and general feelings of well-being. Some demographic questions are also included so that we can accurately describe the characteristics of the final group of participants.

##### **Benefits of this Study:**

You will be contributing to a growing base of knowledge regarding health and quality of life issues associated with working in the IT industry as an expatriate. You also have the opportunity to enter your name in a drawing for one of five \$100 Amazon.com or Visa pre-paid gift cards. These rewards will be distributed after data collection is finished (early fall 2014). Participants will have the option to enter into this reward drawing at the conclusion of their survey; you can also enter by contacting one of the investigators directly (you do not have to participate to enter).

##### **What are the risks to me?**

The risks of this study are limited to the inconvenience associated with completing the survey. If you feel uncomfortable with a question, you can skip that question or withdraw from the study altogether. If you decide to quit at any time before you have finished the questionnaire, your answers will NOT be recorded. *We can only make use of fully complete surveys, however, so we greatly appreciate your full cooperation and careful responding to every question.*

##### **Confidentiality:**

Your responses will be kept completely confidential. You will be assigned a participant identification code, and this is the only identification that will be associated with your survey responses (we will not be asking for your name). Only the researchers will see your individual survey responses and these responses will be stored in a locked storage room. *Your responses will NEVER be shared with your employer or any other participants in the study.* At the end of the survey, you have an opportunity to enter a drawing for a thank you reward – for added confidentiality protection, the information you provide here will be stored separately from your responses to the survey itself.

##### **Decision to quit at any time:**

Your participation is voluntary; you are free to withdraw your participation from this study at any time. You also may choose to skip any questions that you do not wish to answer.

##### **How the findings will be used:**

The results of this study will be used for research purposes only. The results from the study will be presented in educational settings and at professional conferences, and the overall results might be published in a professional journal in the field of psychology.

##### **Contact information:**

If you have concerns or questions about this study, please contact the chair of UTC's Institutional Review Board, Dr. Bart Weathington at bartweathington@utc.edu or 423-425-4289, or the project supervisor, Dr. Chris Cunningham at Chris-Cunningham@utc.edu or 423-425-4264. By completing and returning this survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

Thank you in advance for your assistance and participation.

Sincerely,

Pooja Bangalore Vijayakumar  
Chris Cunningham, Ph.D.  
The University of Tennessee at Chattanooga

*The Institutional Review Board of The University of Tennessee at Chattanooga (FWA00004149) has approved this research project (#14-097) for compliance with ethical guidelines for research involving human participants.*



**\*I have read the above information and agree to participate.**

☐ Yes

☐ No

**\*What is your age?**

**Gender**

☐ Male

☐ Female

**Marital Status**

☐ Single

☐ Divorced/Separated

☐ Married/Living as married

☐ Widowed

**Number of dependents**

(include children and dependent adults):

**\*Your current job title:**

**What percentage of your job requires you to travel?**

(please round to nearest 5%):

**What is your typical work schedule?**

	HH	MM	AM/PM
Start time:	<input type="text"/>	<input type="text"/>	<input type="text"/>
End time:	<input type="text"/>	<input type="text"/>	<input type="text"/>

**How many hours do you work in an average week?**

(round to nearest hour):

**\*How long have you lived in the United States of America (US)?**

(number of years):

**\*Do you consider yourself to be an expatriate in the US (i.e., are you originally from India, but working in the US)?**

☐ Yes

☐ No

If "No", please explain your work and life situation

**If you are an expatriate, please select the option that best describes how you became an expatriate working in the US:**

- ☐ I sponsored my own immigration to the US to further my education
- ☐ I sponsored my own immigration to the US to explore work opportunities
- ☐ A company in India sponsored my immigration to the US (for a work assignment)
- ☐ A company in the US sponsored my immigration to the US (for a work assignment)

Other (please specify)

**\*Which State do you belong to in India (example, Andhra Pradesh, Karnataka, Tamil Nadu...)?**

**Please respond honestly to each of the following questions, using the provided response scale.**

	Less than one per month	Once or twice per month	Once or twice per week	Once or twice per day	Several times per day
How often does your job require you to work very fast?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often does your job require you to work very hard?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often does your job leave you with little time to get things done?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often is there a great deal to be done?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you have to do more work than you can do well?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Now, think about your interactions with coworkers...**

	Never	Rarely	Sometimes	Quite often	Very often
How often do you get into arguments with others at work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do other people yell at you at work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often are people rude to you at work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do other people do nasty things to you at work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**For each of the following questions, please check the response option that best describes how you feel and how things are going for you.**

	Disagree strongly	Disagree	Disagree somewhat	Neither agree or disagree	Agree somewhat	Agree	Agree strongly
Have you been bothered by nervousness or your "nerves" during the past month?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much energy, pep, or vitality did you have or feel during the past month?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt downhearted and blue during the past month.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was emotionally stable and sure of myself during the past month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt cheerful, lighthearted during the past month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt tired, worn out, used up, or exhausted during the past month.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In most ways my life is close to my ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Please respond honestly to each of the following questions, using the provided response scale.**

	Disagree strongly	Disagree	Disagree somewhat	Neither Agree or Disagree	Agree somewhat	Agree	Agree strongly
I feel most like myself when I am working.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the satisfaction I experience in life is due to work-related experiences and accomplishments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work-related duties come first on my list of priorities, above all other responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view my work as the most important aspect of my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My identity (e.g., who I am) is most strongly based on what I do at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel most like myself when I am with family and friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the satisfaction I experience in life is due to experiences and accomplishments outside of work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My responsibilities outside of work come first on my list of priorities, above all other duties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I view my activities outside of work as the most important aspects of my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My identity (e.g., who I am) is most strongly based on what I do outside of work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Please respond honestly to each of the following questions, using the provided response scale.**

	Not at all	Somewhat	Moderately	Mostly	Completely
How adjusted are you to the food in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to the health care facilities in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to the entertainment/ recreation facilities and opportunities in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to the living conditions in general in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to cost of living in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to shopping in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to housing conditions in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to performance standards and expectations in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to supervisory responsibilities in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to specific job responsibilities in the US?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to interacting with Americans outside of work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you to interacting with Americans on a day-to-day basis?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you in respect to speaking with Americans?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How adjusted are you in respect to socializing with Americans?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**If you are married, have limited work opportunities for your spouse (due to dependent visa or other restrictions) created complications in your nonwork (outside of work) life?**

☐ No

☐ Yes

If "Yes," please explain:

### I immigrated to the US because...

	Disagree strongly	Disagree	Disagree somewhat	Neither Agree nor Disagree	Agree somewhat	Agree	Agree strongly
I wanted to escape from my current situation (in India)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was bored with my home country (India)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted something new	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hoped to save a large amount of money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I needed a well-paying job for my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was in debt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted to see more of the world	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I desired an adventure/challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted new experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I desired to enhance my career prospects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wanted to do the right thing for promotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought it might do my career some good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**Please respond honestly to each of the following questions, using the provided response scale.**

	Not at all	Rarely	Sometimes	Often	Almost all the time
I come home from work too tired to do things I would like to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job makes it difficult to maintain the kind of personal life I would like.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often neglect my personal needs because of the demands of my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal life suffers because of my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have to miss out on important personal activities due to the amount of time I spend doing work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal life drains me of the energy I need to do my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My work suffers because of everything going on in my personal life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it weren't for everything going on in my personal life, I would devote more time to work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because of things I have going on in my personal life, I am too tired to be effective at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I'm at work, I worry about things I need to do outside work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty getting my work done because I am preoccupied with personal matters at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job gives me energy to pursue activities outside of work that are important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because of my job, I am in a better mood at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The things I do at work help me deal with personal and practical issues at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am in a better mood at work because of everything I have going for me in my personal life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal life gives me the energy to do my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My personal life helps me relax and feel ready for the next day's work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In this final portion of the survey, we are interested in your break-taking behaviors and experiences while at work. Please respond honestly and completely to the following questions.

**Do you eat lunch every day?**

☐ Yes

☐ No

**How much time do you typically take to eat lunch on a work day?**

(in minutes):

**How would you describe your typical choice of lunch food on a work day?**

☐ Very unhealthy

☐ Unhealthy

☐ Equally unhealthy  
and healthy

☐ Healthy

☐ Very healthy

**Does the degree of unhealthy versus healthy food change when you are experiencing high levels of stress at work?**

☐ No

☐ Yes

If "Yes", please explain how so:

**Do you typically eat at your desk/work space or away from your desk/workspace?**

☐ At my desk/workspace

☐ Away from my desk/workspace

**Do you typically eat your lunch by yourself or with co-workers?**

☐ By my self

☐ With co-workers

**Would you typically prefer to eat lunch by yourself or with co-workers?**

☐ By my self

☐ With co-workers

**To what extent do you typically experience the following during a typical lunch break...**

	Not at all	Rarely	Sometimes	Often	Almost all the time
I kick back and relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do relaxing things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I take time for leisure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend at least part of the break time finishing/working on what I was doing before lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prepare/organize for what I have to do after lunch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I work on some work tasks that I need to get done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I socialize with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend time with/talking to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**\*Do you regularly take other mini-breaks (besides time for lunch) at work?**

☐

Yes

☐

No

**How long do such breaks typically last?**

(in minutes):

**How long can your breaks last before you feel like you've interrupted your work?**

(in minutes):

**What do you typically do with your time during such breaks? (please list and briefly describe your top 5 activities)**

**Are you interested in entering the drawing for a thank-you reward?**

☐

No

☐

Yes

**Why do you not take breaks at work?**

**Would you take breaks while at work if you could?**

☐ Yes

☐ No

**How long could your breaks last before you would feel like you had interrupted your work?**

(in minutes):

**Are you interested in entering the drawing for a thank-you reward?**

☐ No

☐ Yes

**To be entered into the drawing for one of five \$100 thank you reward gift cards, please provide the following information. This information will be kept separate from the other information you provided in this survey.**

Last name:

Preferred e-mail address:

## VITA

Pooja is currently pursuing her Masters degree in Industrial-Organizational Psychology at The University of Tennessee Chattanooga (UTC) and will be graduating in May 2015. She also has a Masters degree in Electrical Engineering and has completed her undergraduate degree in Telecommunication Engineering from India. She has had over four years of IT experience. At UTC, she had the opportunity to teach undergraduate students Statistics and Research methodology Lab.